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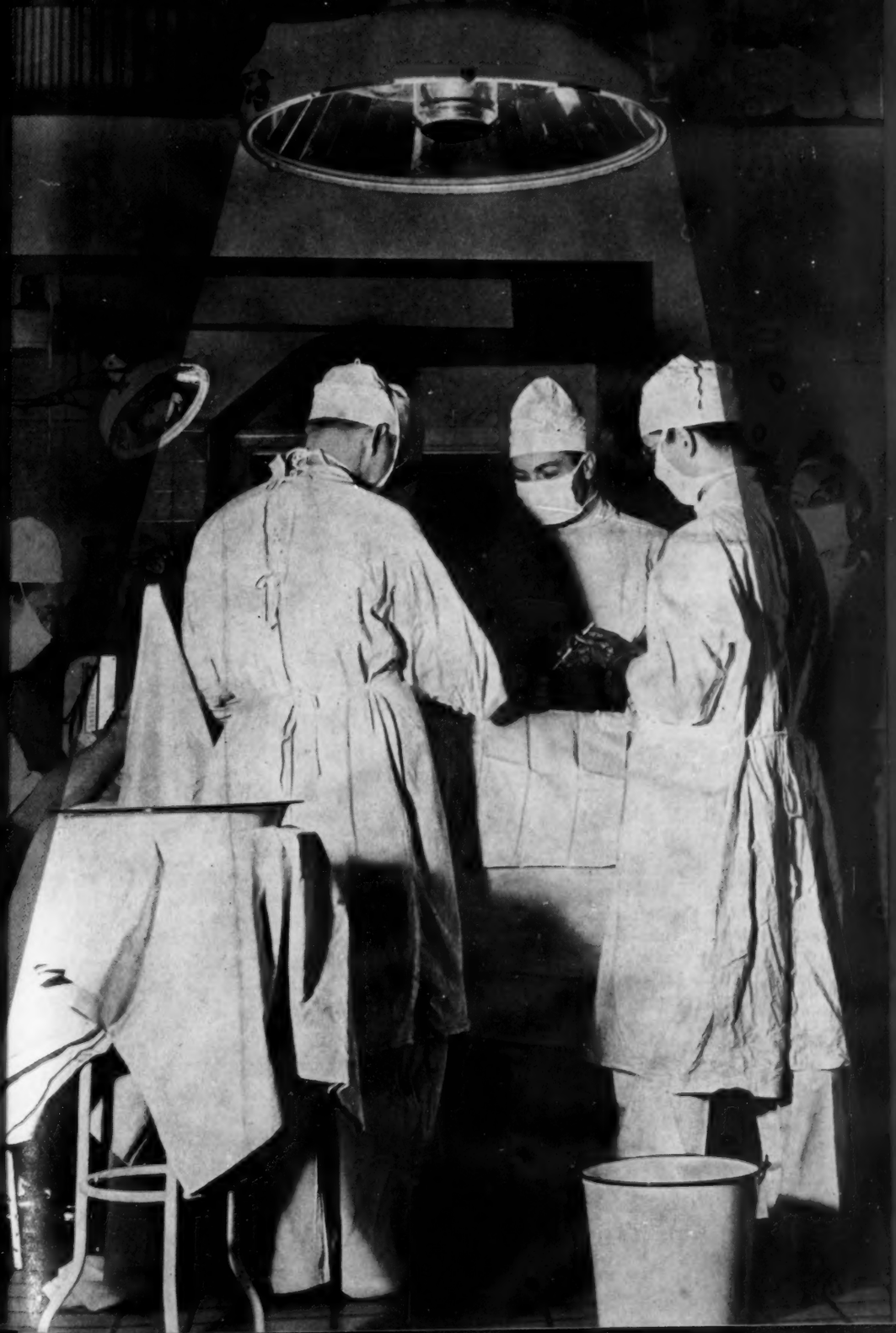
THE HEALTH MAGAZINE OF THE AMERICAN MEDICAL ASSOCIATION

HYGEIA



FEBRUARY
1943 - 25c

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SINUSES AND HEALTH
By Lewis J. Silvers, M.D.

THE FOOD WE EAT
By Miriam Zeller Gross

BE A GOOD PATIENT!
By Arthur P. Trewhella, M.D.

VENTURES IN DENTURES
By Jocelyn W. Tyler

CHOOSING A DOCTOR
By Rose Zeliga

WHITE COLLAR JOBS
By Louise M. Neuschutz

NEW LIMBS FOR OLD
By Mary Bradley

"I'M HUNGRY!"

Well, bless your little heart! Did you ever hear how we take care of that at Clapp's?

1. Did you ever meet a beautiful beet? The finest, rosiest, yummiest beets you ever saw are the ones that go into Clapp's Baby Foods. (All the vegetables and fruits for Clapp's have got to be just super-wonderful.)

2. Did you ever thank a kettle? A hungry baby ought to! Especially those special kettles used at Clapp's! They cook your food in a very special way. The air's kept out—the vitamins and minerals kept *in* your food (Where they belong!)

3. Did you ever love a lamb? You'll see that it's fun to be hungry when you taste the lamb that's used in Clapp's Lamb with Vegetables. It's extra-special, tender spring lamb—full of nourishment so you'll grow big and strong!

4. Did you ever examine a doctor? We do at Clapp's! We *cross*-examine doctors to find out what they think about foods for babies. And we make Clapp's Baby Foods exactly the way they recommend. (But exactly!)

5. Did you ever see a happy strainer? Clapp's strainers are *wonderfully* happy. They know they're straining foods just right for hungry babies—not too fine, not too coarse. (Clapp's junior foods are made with a coarser texture—halfway between strained foods and regular grown-up foods.)

6. Did you ever hire a cook? You'd choose Clapp's! For Clapp's are *specialists* in baby foods. We make nothing else but! You can bet we know all the secrets of making food taste good to babies!

7. Did you ever measure a smile? It starts at the right ear and goes clear around to the left—on a baby who's been eating Clapp's.

8. Did you ever count Clapp's Baby Foods? There are 18 varieties of strained foods for young babies . . . 15 varieties of junior foods for older babies . . . and 2 marvelous kinds of cereal—*Clapp's Instant Cereal* and *Clapp's Instant Oatmeal*. Try them. And you'll see for yourself why "Babies Take to Clapp's!"

CLAPP'S BABY FOODS

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

Copyright, 1943, Mead Johnson & Company, Evansville, Indiana, U. S. A.

GALEN 131-201 A. D.

"Founder of Physiology"

hygeia

THE HEALTH MAGAZINE

535 N. DEARBORN ST., CHICAGO, ILL.

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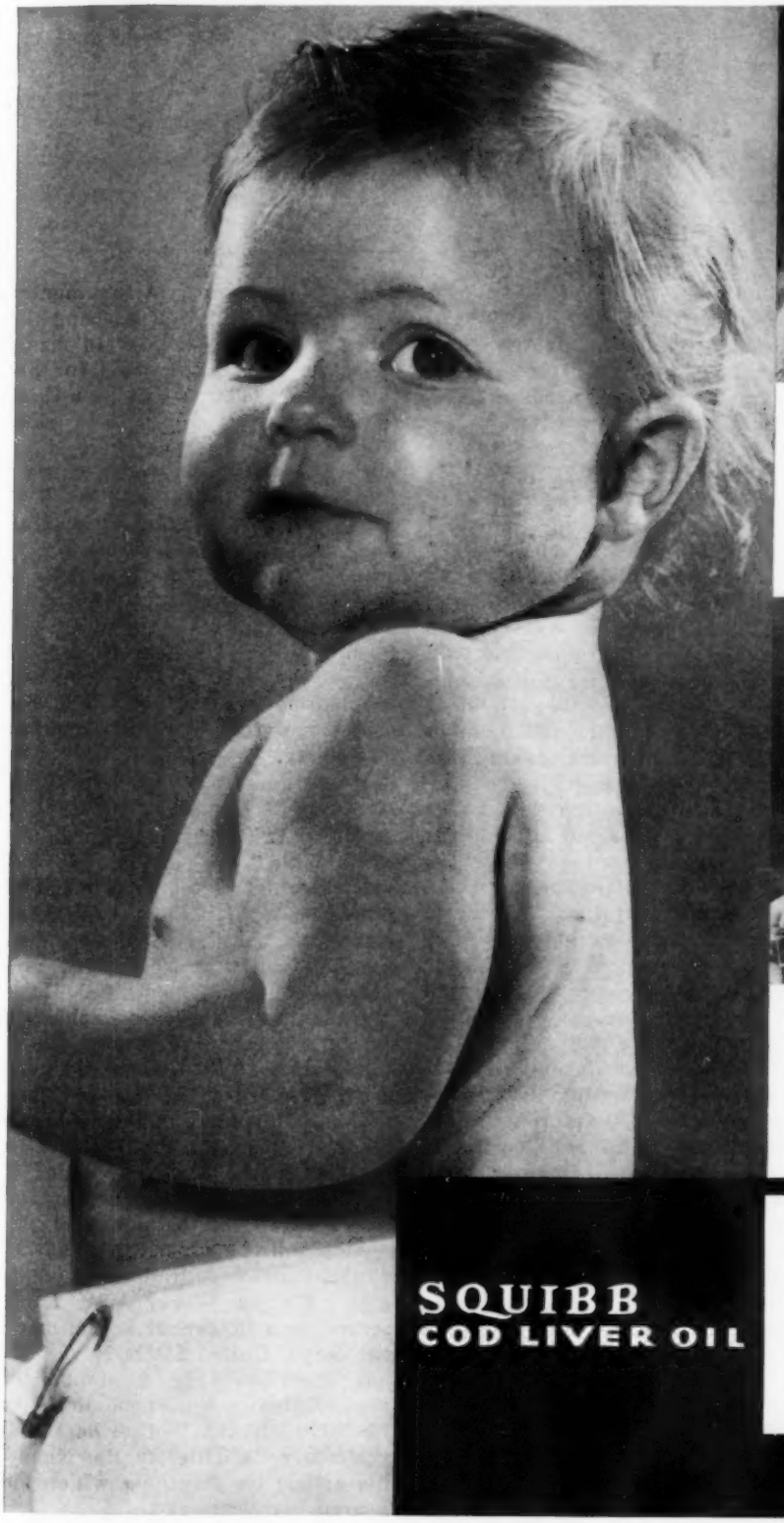
Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy submitted. All rights reserved.

Is your baby building a straight, strong back?

You'll be so proud when he sits up without support. Remember, though, there's one kind of help he can't do without—plenty of Vitamin D. Are you giving Squibb Cod Liver Oil to help him build a straight back, a well-shaped head and a sturdy frame?



No, he's not "too young"

Shortly after birth—at two weeks—mothers start their babies on Squibb Cod Liver Oil. It's such a fine start in helping them build well-shaped heads, fine, full chests, and a good sound set of teeth.

straight legs for walking

The way to help *your* baby build a straight pair of legs is to make sure he gets not only a well-balanced diet but enough Vitamin D. Every day, long *before* he starts to walk, give him Squibb Cod Liver Oil.

SQUIBB
COD LIVER OIL

YOU GET VALUE! Just think—Squibb Cod Liver Oil is twice as rich in Vitamin D as cod liver oil which meets U. S. Pharmacopeia requirements. It also contains twice as much Vitamin A. You want those extra vitamins for your baby. The vitamins are what you pay for. So insist on Squibb's.

"The Adcomber"

looks at Hygeia ads

"Sally needed an eye examination more than she needed a spanking" tells the story of many a school-age youngster—youngsters who never realize their handicap! And often enough, youngsters of many privileges. . . . Has your child had an eye examination lately? Page 85.

—◈—

"Before and after"—when comfort means so much—treat yourself to this Controlled Uplift Bra . . . each cup adjustable, up or down . . . all sizes . . . delightful to wear! Page 142.

—◈—

As in ancient wars, lurking disease is still "the enemy within our gates." To prevent the spread of venereal diseases among the American people . . . to save our *fighting strength*—demands constant vigilance . . . community education . . . personal precautions. The two letters on page 122 are addressed to Every American!

—◈—

Try it! This quick, easy, pocket-ready way to make milk more readily digestible. Ask for a FREE SAMPLE of those fast-working "Junket" Rennet Tablets . . . Coupon for your use on page 126.

—◈—

"The right way to wait for your baby" and "how to take care of him when he is here"—two subjects of vital moment for mothers-to-be! Here's help with them both in a fascinating book called *Getting Ready to Be a Mother*. More details, page 149.

—◈—

BELIEVE IT OR NOT—babies supervised by doctors are *better babies. On page 81, Mead Johnson & Company presents one "better baby." Just stop off a moment at page 81 . . . You* can't resist *looking!*

—◈—

"Among the best in their field" is none too favorable a commendation for the two books advertised as follows: on page 149, by Emerson Books, Inc.; also page 149, by the Eugenics Publishing Company.

—◈—

Here's news for the mothers of those 2,890,000 new babies born in 1942! Some truly helpful facts about what . . . why . . . how to keep those young Americans strong and well-nourished. For others than mothers, too—pages 86 and 87 are well worth reading!

—◈—

Here's an efficient heating pad for dozens of home nursing needs and for winter sports! Simply add water, and you get heat—quick, lasting, comforting. Cost? . . only $1.15. Better look into it—page 151.

THE ADCOMBER

Who's Who

IN

HYGEIA

It is unlikely that many men who have served as Intelligence Officers in Great Britain's Indian Army and traveled extensively for twenty years in India, Malaya, Indo-China, Thailand and the Dutch East Indies would refer to their careers as "prosaic." H. G. QUARITCH WALES is one who does. "I am afraid my past is quite prosaic and scientific," he says, "but here are some details." Dr. Wales was educated at Charterhouse School and Queens' College, Cambridge, where he received the M.A. degree with honors in the natural sciences. He did graduate work at the London School of Oriental Studies and the London School of Economics, taking his Ph.D. in anthropology.

Many men have written books about the period of their lives which corresponds to a phase Dr. Wales describes in three words. "Took up exploration," he says. There followed a period of service with the government of Siam (now Thailand), and years of research and study in the East as Field Director of the Greater India Research Committee headed by Sir Francis Younghusband, the famous Tibet explorer. "Explored ancient cities, trade routes and marts," is the way Dr. Wales expresses it.

Here and there in his travels, Dr. Wales has become familiar with practically every disease which is endemic in the East—malaria among them. "Malaria and War in the Pacific," on page 102 of this issue of HYGEIA, is condensed from his long experience with malaria fighters in Malaya.

As a busy doctor in Jersey City, ARTHUR P. TREWHELLA, M.D., has laid down the law to thousands of hospital patients. A few months ago he found himself holding the other end of the stick, so to speak, when he was hospitalized for appendicitis. "The article 'Be a Good Patient!' was actually written while as a postoperative patient I had the chance to observe hospital behavior from front row center," Dr. Trewhella says. "An efficient hospital must have discipline," Dr. Trewhella points out, "and so a definite routine is essential." His good natured advice will help those who must be hospital patients to be good patients by observing the rules and regulations which, after all, are established for their own comfort and safety.

DANIEL B. KIRBY, M.D., author of "Myopia," on page 110, is surgeon in chief of the department of ophthalmology, Bellevue Hospital, New York City, and professor of ophthalmology at New York university college of medicine. He is a graduate of the medical school of Western Reserve university, Cleveland (class of 1916), and did postgraduate work at the Harvard, Cornell and University of Pennsylvania medical schools. Dr. Kirby is a member of the American Board of Ophthalmology, the American and New York Ophthalmological societies and the American Academy of Ophthalmology and Otolaryngology. During World War I, he served as a lieutenant in the medical corps, United States Navy. He has contributed to a number of medical books and periodicals in his field; HYGEIA subscribers will remember "A Thief in the Night," his article on glaucoma which appeared two years ago.

Sally runs to school now!

SALLY used to plod through that gate and head toward school with leaden feet. Now see her run!

Sally used to bring home report cards that made her blush with shame; made her mother scold her. Now her report cards make her mother's face light up with pride. Sally used to be unpopular because other children thought her dull at games. Now Sally's house is the gathering place.

Sally finally got a break . . .

It occurred to Sally's mother one night, as she watched her squint over her schoolbooks, that perhaps Sally needed an eye examination more than she needed a spanking. That was the turning point for Sally. So many parents, watchful of their child's health in every other way, fail to have those precious eyes attended to. Many children don't realize that they cannot see as others do.

Of course, you're extra careful about your child. But has she or he had an eye examination lately? Play safe with your children's eyes—and give them the benefit of a periodic checkup. No matter what the answer is, you'll be glad you did it.

HOW DO SOFT-LITE LENSES HELP YOUR EYES?

Soft-Lite Lenses are scientifically designed to benefit eyes which are over-sensitive to glare. They do this by controlling the amount of light which reaches the eye, putting tired eyes upon a "light-diet." Scientifically designed, Soft-Lite Lenses do not alter color values. Made by Bausch & Lomb, they are ground to prescription for children as well as adults.

There is only one Soft-Lite—identified by this certificate.

AMERICA NEEDS YOUR EYES

Soft-Lite Lenses

SOFT-LITE LENS COMPANY, INC., 745 FIFTH AVENUE, NEW YORK

TO KEEP OUR CHILDREN STRONG

This year, 2,890,000 new Americans were born . . . 2,890,000 hungry little mouths began clamoring lustily for food. To see to it that this food shall contain *all* the nutrition values that fast-growing little bodies require — to make sure that these new citizens shall be given the best start towards a healthy, happy maturity — is the inspiring responsibility which we in the Baby Food Industry share with the doctors and mothers of America

TODAY—as more doctors join the armed forces – as more women take men's places in war production – we in the Baby Food Industry feel an *increased responsibility* for the youngest generation. Our job is to help keep the many millions of American babies so sturdy, so contented, so well-fed that their mothers and doctors will be able to make their greater contributions to the war effort.

More Babies – Fewer Doctors – Busier Mothers

One year of war has brought great changes to the world that babies live in.

During 1942, well over 200,000 babies arrived in America every month – *an increase of 13 per cent over the year 1940.*

42,000 doctors answered the call to the colors.

3,000 new trained nurses were required every month by the Army and Navy.

By the end of 1942, nearly 2,000,000 more women were employed than in 1941. And many of the mothers who have remained at home are devoting a part of their time to some form of war work.

This mobilization of man and woman power now makes scientifically prepared baby foods even more important than they have been in the past! Mothers of today can depend on these foods to aid in rounding out their children's diets – to promote development of sounder bodies – and build up resistance to illness.

9 Out Of 10 Doctors Interviewed Prescribe Prepared Baby Foods

In this war emergency, we in the Baby Food Industry are gratified to find that the informed public is fully aware that our products are *more* than merely a convenience – a means of saving the time and effort formerly spent in cooking foods and then mashing them through a strainer. Recently, for example, a large number of doctors were asked whether they prescribed prepared baby foods for diets of normal infants. Nine out of ten doctors interviewed replied *"Always"* or *"Usually."* While ease of preparation by the mother

carries weight with these medical men, it is only one of several reasons they mentioned for favoring this type of baby food.

Excellent Sources Of Vitamins And Minerals

The physicians interviewed point out that these products make it possible to balance and complete the diets of babies with foods rich in iron, Vitamin A and Vitamin C. *Since these baby foods are prepared to meet the quality requirements of the medical profession, the greatest care is taken to preserve their vitamin content.* Nutritionists, experienced chefs and medical advisors have worked together to perfect these products.

Thanks to their efforts, we have succeeded in preparing scientifically cooked, vacuum-packed baby foods which retain vitamins and minerals in high degree and are *uniform in quality*. In these respects they are often distinctly superior to home-prepared foods, which may be low in vitamins because of improper cooking or storing of the fruits and vegetables. Since the quality of home-prepared foods is so variable, there is no simple way to determine how much nourishment the baby is receiving at each feeding.

Made-To-Order For Babies

Digestibility is still another reason given by the physicians interviewed for prescribing prepared baby foods. Since they are only mildly seasoned—since all harsh fibrous matter is removed and their consistency is *scientifically controlled* – and since they are very thoroughly cooked they do not tend to upset the delicate digestive systems of young infants. It is also felt that these scientifically prepared baby foods have been an important factor in the reduction of gastro-intestinal troubles in younger children.

Furthermore, babies like variety just as much as adults do. Prepared baby foods enable a mother to give her child a wider variety of appetite-arousing dishes than when food is prepared at home. Many seasonal foods which are on the market for only a few weeks have been made available for twelve months of the year.

Decline In Infant Death Rate

In 1920—before the day of prepared baby foods—infant deaths in the United States were 174,710. By 1940 they had gone down to 110,984 – *a decrease of 40%*. While various factors have contributed to this decrease in the infant mortality rate, prepared baby foods are recognized as having played an important part in protecting the health of the nation's babies. We in the Industry take pride in this record.

For all these reasons, we believe that America is fortunate in having a well-established Baby Food Industry to help safeguard the health of the war generation of babies . . . for whose future, in the last analysis, this war is being fought.

TO KEEP OUR CHILDREN FREE

As you look down on the bed in which your baby lies sleeping, there is no need for anyone to tell you what this country's "war aims" are. You *know* that we're fighting for our children's future—fighting to make certain they will grow up to be free men and free women in a free country. So the next time your son or daughter climbs into your lap and begs for a story, let that be a reminder to buy War Bonds and Stamps to the limit of your ability . . . to help keep your children free.

H. J. HEINZ COMPANY

Makers Of Baby Foods, One Of The (57) Varieties

This advertisement is reprinted here because of the widespread interest and comment that followed its recent appearance in 190 newspapers

"WHY WEAR A SUPPORT NOW THAT HE'S BORN!"

MAYBE you didn't wear a maternity support before you had your baby. But that doesn't mean you shouldn't consider the advantages of a scientific support afterwards!

Fact is, most doctors agree that a postnatal support can contribute greatly to your comfort and to your body's quick recovery. Do wonders toward helping you get your figure back into shape.

Camp postnatal supports are *scientifically* designed to give you the extra support your over-strained muscles need. They help relieve strain on your back so that you don't tire so easily. Help you to carry on with the extra work a baby entails without that dreadful dragged-out feeling.

Remember, too, it's the garment obstetricians everywhere prescribe.

Priced from $5

LOOK FOR THIS SIGN in store windows, in corset departments. It means that a Camp-trained fitter is in attendance and that Camp Scientific Supports are available. Remember — these supports are never sold by door-to-door canvassers.

S. H. CAMP AND COMPANY, JACKSON, MICHIGAN
World's largest manufacturers of scientific supports. Offices in New York; Chicago; Windsor, Ontario; London, Eng.

LETTERS FROM *Readers*

The Male Element

To the Editor:

Your recent articles on health and hygiene training for high school students have held a natural interest for me, being a high schooler myself. I have, however, noticed that they have made no mention of boys in these activities. Your most recent article by Mary M. Kelso in the December issue of HYGEIA seems to bring out this point clearly: True, the boys were treated and consulted, but they were given no chance to become acquainted with the course itself.

Of course, high school girls as future mothers should have the opportunity to study and practice all the social courses such as home economics, home nursing and child care, but what about the male element? Are they to have no part at all in this program, as your articles would seem to indicate? There appears to be no logical reason why they should be excluded, as one would presume from the text of these articles.

May I suggest, therefore, that the titles of these articles are erroneous and should read, "Health and Hygiene Rules for Girls."

Carthage, N. Y. RALPH A. KILBY

Faithful Reader

To the Editor:

Being a senior premedic student here at the university I am one of the many faithful readers of your magazine, and always find it full of interesting and educational articles. You are to be commended on the fact that the whole magazine is one which the lay public can read, enjoy and benefit by.

MERTON L. EKWALL

University of Nebraska,
Lincoln, Neb.

Sinuses

To the Editor:

After reading your article in the August issue of HYGEIA (*"Swim for Good Health," by Charles L. Sawin*), I would like to know if you would be able to supply additional information on the subject of sinus trouble, mastoid, etc., as resulting from swimming.

I am a Scoutmaster in Denver and we have trouble in the indoor pools due to the excess amount of chlorine in the water so any suggestions would be appreciated.

Denver, Colo. WALTER CHAPMAN

The article "Your Sinuses and Your Health," by Lewis J. Silvers, page 104 of this issue, should provide some useful information on this subject. More articles on the sinuses are scheduled to appear in HYGEIA *during the year.*—ED.

Not Much Benefit

To the Editor:

I received the September and October copies but so far cannot say that I will derive very much benefit from either one. All are topics I have known, and I hope the others will be more explicit in details. Too much one man's opinion.

M. A. FEIERFEIL

Calmar, Iowa

From an Author

To the Editor:

The current HYGEIA is here and I must tell you that I am delighted with the Kreutz article. The arrangement is most pleasing—I surely appreciate the good help and cooperation which you have given.

C. J. FREUND

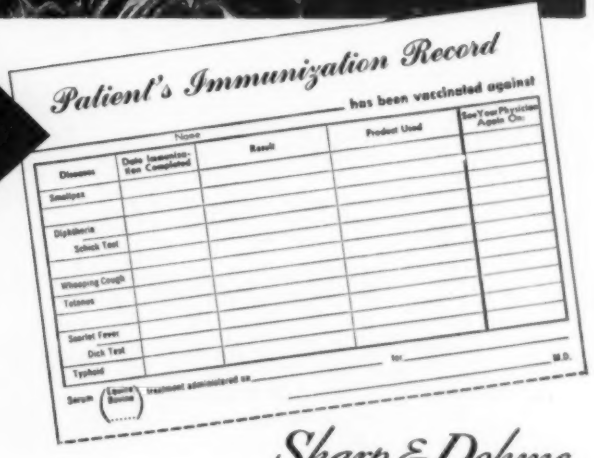
University of Detroit,
Detroit, Mich.

The President has urged immunization against Smallpox and Diphtheria. Today, immunization is so vital the President recently asked that "all children of 9 months be immunized against Smallpox and Diphtheria . . ." Whooping Cough causes most of its deaths in first year, yet 2 out of 3 children have never been inoculated.

Your child's resistance to contagion may not increase with age! Children of five are often *more* susceptible to Diphtheria than a new-born baby; yet a Roper survey shows 32% of mothers have never had a single child inoculated. 50% with children under 5 have never had even one child vaccinated against Smallpox!

Most mothers believe in immunization—all too few have acted—shows Roper survey. All too few use it to safeguard their children. In this war crisis, epidemics are a constant threat. Don't wait until *your* child has been exposed to danger. Then it may be too late! See your physician immediately for his advice on immunization.

Only a piece of paper—but it may save your child's life!



AN IMMUNIZATION RECORD CARD can help you give your children complete immunization protection . . . will tell what diseases each child has been immunized against and *when* and *what* re-immunization will be necessary. See your physician for these cards today!

An immunization record card is supplied free to the medical profession by Sharp & Dohme, makers of Pharmaceuticals and Mulford Biologicals, as part of their endeavor to aid in the prevention of communicable disease.

Sharp & Dohme
PHILADELPHIA

Is Your Skin Dry?

If you are seeking a cream especially formulated to combat skin dryness, the new MARCELLE hypo-allergenic DRY SKIN FOUNDATION CREAM may prove the answer to your need.

MARCELLE hypo-allergenic FOUNDATION CREAM FOR DRY SKIN is the result of highly specialized cosmetic investigation. It is the culmination of research along lines suggested by dermatologists and allergists. All known irritating factors have been either eliminated or reduced to tenable minimums.

Dry, chapped skin will afflict many during the winter season. We suggest MARCELLE hypo-allergenic SKIN LUBRICATING CREAM as a night cream, and MARCELLE hypo-allergenic DRY SKIN FOUNDATION CREAM as a day cream.

ASK YOUR DOCTOR

If your skin is irritated or chapped because of dryness, ask your doctor about the advisability of trying MARCELLE hypo-allergenic DRY SKIN FOUNDATION CREAM.

Send 10c for a kit of Marcelle Daily Necessities containing a one week's supply of Marcelle Hypo-Allergenic Cleansing Cold Cream, Skin Lubricating Cream, Face Powder, Rouge, and Lipstick.

MARCELLE COSMETICS
1741 N. Western Avenue
CHICAGO, ILL.

Marcelle
HYPO-ALLERGENIC
COSMETICS

COMING IN HYGEIA

Syphilis by Greer Williams

It is estimated that 3,000,000 people—or about 24 of every 1,000 in the United States—have syphilis. Forty-seven of every 1,000 men examined for selective service were infected. The historic plague is still the great tragedian among the diseases of man. While progress has been made in recent years in the treatment of syphilis and in its control as a public health menace, the old feeling that syphilis is indecent—the sex-sin stigma—persists even today. Mr. Williams' article in next month's HYGEIA reviews up to date thinking and work on the moral, medical and public health aspects of the syphilis problem.

—◈—

Limited Service by Will O'Neil

Thousands of patriotic men who are eager to do their part to win the war are barred from general military service by minor physical defects: they have some visual difficulty, or they are hard of hearing; they are overweight, or underweight, or they have some other handicap which keeps them out of combat service. The Army needs these men, however, and has established a special school—Camp McCoy at Sparta, Wis.—to equip them to serve their country in wartime. Mr. O'Neil is spending several days at Camp McCoy this month and will write about his visit in HYGEIA for March.

—◈—

Baby's on the Way by Edith G. Neisser

Every mother knows that the arrival of a baby makes a tremendous difference in the whole routine of the family. Most mothers have had to learn this the hard way, by adjusting themselves to the new situation by painful, trial and error methods. Long ago, the Association for Family Living in Chicago discovered that pre-education of parents could accomplish wonders toward getting the new family group off to a good start. Their program, which has been operating successfully for several years, is outlined for HYGEIA readers by Mrs. Neisser, who is vice president of the Association.

—◈—

Also coming in HYGEIA: More articles by Miriam Zeller Gross on "The Food We Eat" and other nutrition subjects, child training studies, and articles on hearing, vision, dental hygiene, public health, tuberculosis and other health subjects.

Dear Bill:

I just couldn't sit home any longer—waiting for your letters, worrying, but doing so little to bring you home sooner.

You see I started in this week at the war plant. They're training me to be a drill press operator. And you can just wipe that grin off your face, you big goof. The foreman says I'll make a darn good one!

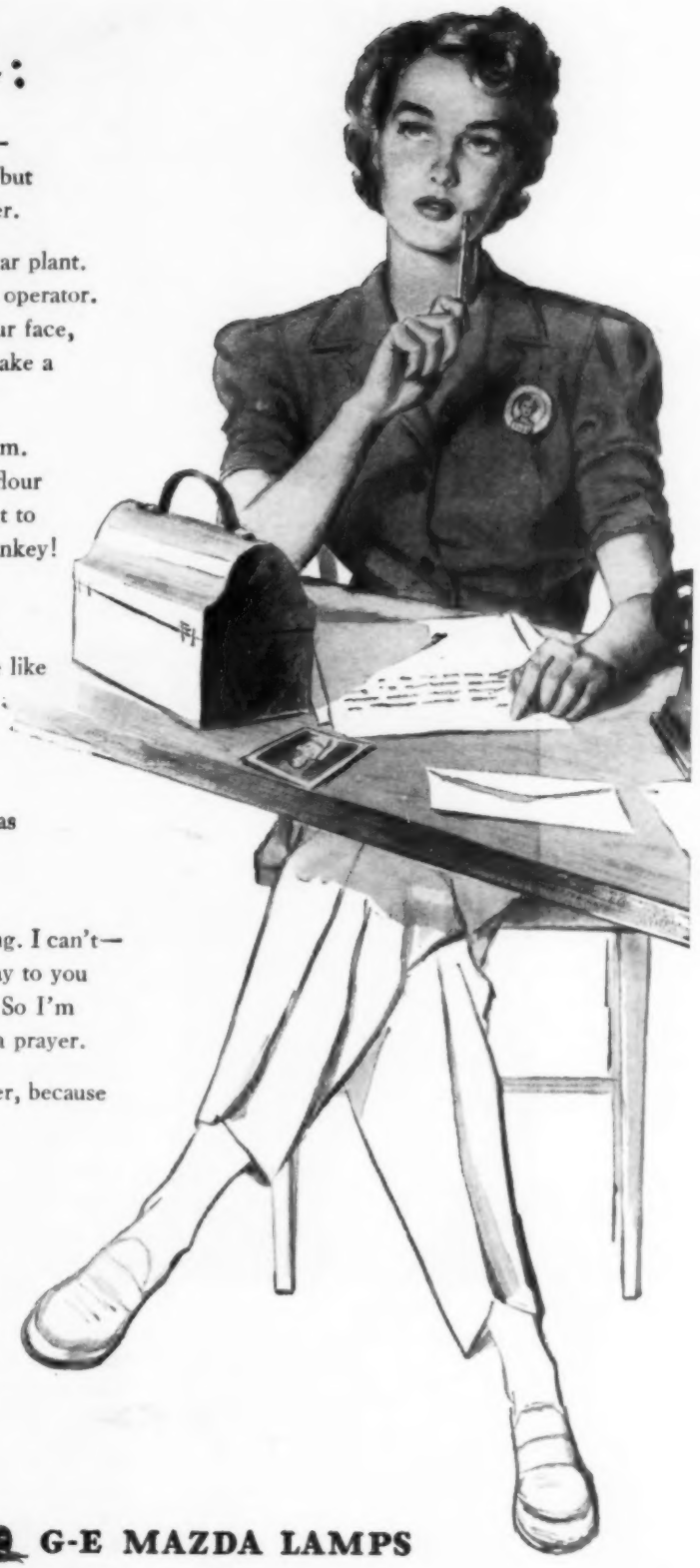
So here's a picture of me in my uniform. Remember how you used to wipe the flour smudges off my nose? Well, you ought to see me now—I'm a regular grease monkey!

I admit I was pretty scared the first day, until I got up nerve to really look the place over. I was afraid it would be like working in a dungeon—all dark and dingy!

But it's not like that at all. Why, the plant's as bright and cheery as our own kitchen. Even has that new fluorescent lighting!

I wish I could tell you what we're making. I can't—but I hope one of them may find its way to you someday—just when you need it most. So I'm sending my love with every one—and a prayer.

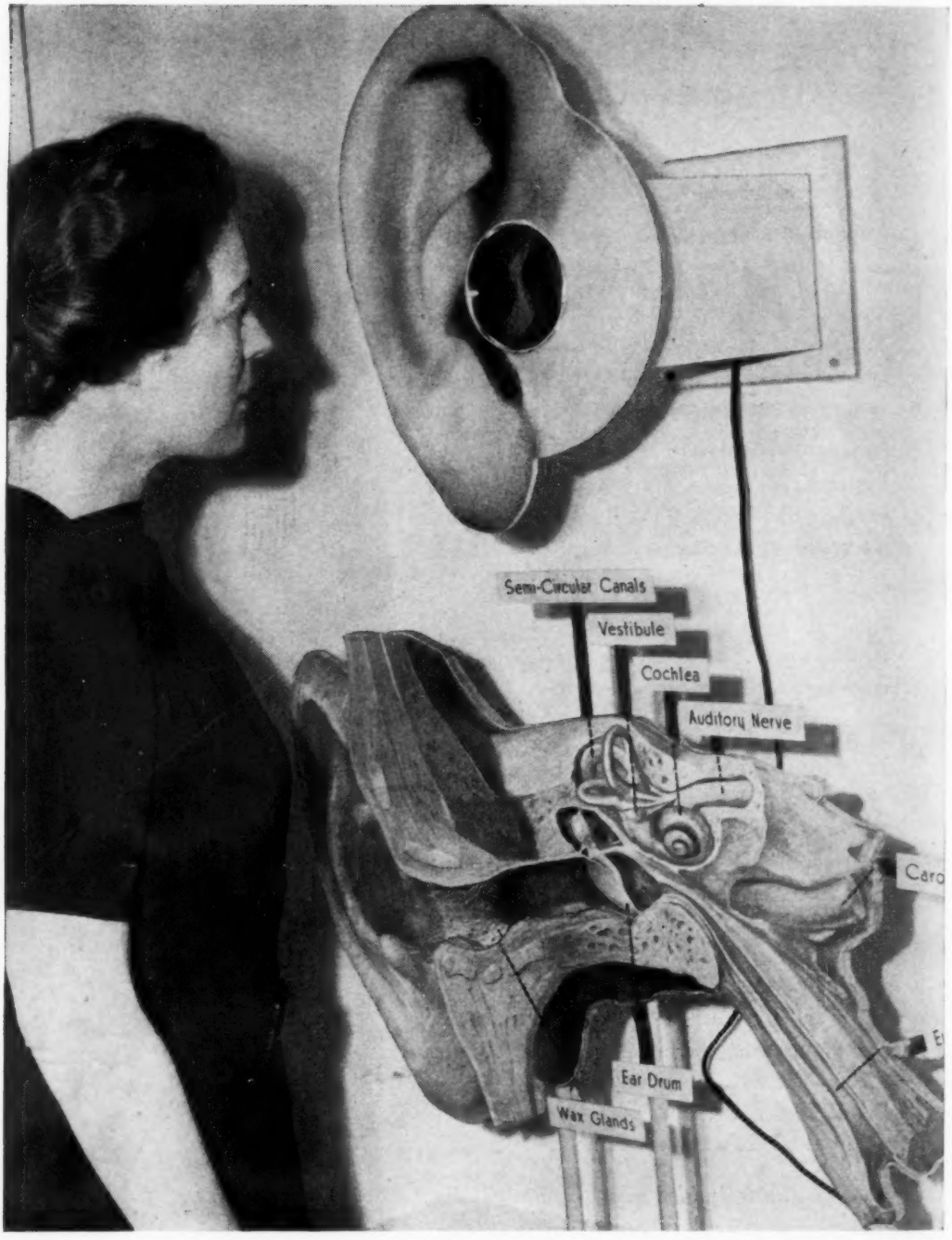
I'm not counting the minutes any longer, because I know you'll be back pretty soon.
So, darling . . . . . .
Oh, oh. There's the whistle now!



General Electric is doing many things to speed war production. One of these is to supply G-E MAZDA lamps—and also the expert engineering advice needed to keep lighting at top efficiency twenty-four hours a day.

G-E MAZDA LAMPS

GENERAL ELECTRIC



Working in close cooperation with the local medical society, the Cleveland Health Museum exemplifies the modern method of presenting educational material in graphic, dramatic exhibits. Above: A giant size ear, shown externally and in cross section, instructs an observer in anatomy. Opposite page: By operating the simplified model of a ball and socket joint, visitors may see for themselves how such joints work in the human body. Explanatory diagrams accompany the model

SEEING IS BELIEVING

An Editorial by W. W. Bauer

THE QUICKEST and easiest path to the human mind is through the eye. That fact underlies the ancient Chinese axiom that a picture is worth ten thousand words. Modern education has tended toward increasing use of so-called visual media. Maps, charts, diagrams, graphs, photographs, cartoons, slides, film strips, motion pictures and animated drawings have found their places in the classroom for teaching purposes, and particularly for health education.

Elsewhere in this issue of HYGEIA will be found information about the health exhibits available for public showing from the American Medical Association. These exhibits have been developed by the Association's Bureau of Exhibits in close collaboration with other departments of the Association.

Approximately thirty-five years ago, when the early popular movement to combat tuberculosis was getting under way, the exhibits used were horror shows—enormous displays in empty store buildings of tuberculous tissues from animals commonly used for food. Today exhibit technic is suave. Sometimes, amusingly enough, so suave that the mechanical novelty gets all the attention and the real message is lost.

Health exhibits really began to be popular at Chicago's Century of Progress Exposition in 1933 and 1934. There the American Medical Association and numerous other professional and health agencies and commercial manufacturers and distributors made a strong appeal, with advanced exhibit methods, to the health consciousness of the visitors. The success of the health exhibits at this exposition resulted in similar displays at expositions in Dallas, San Diego, Cleveland and at the New York and San Francisco World Fairs, as well as numerous exhibits by health departments and state and county medical societies at state, county and regional expositions. Next came the birth and growth of a movement for American health museums, of which the first one to open and flourish was the Cleveland Health Museum. Excellent health exhibits, not constituting independent health museums, will be found in Chicago's Museum of Science and Industry, Buffalo's Hall of Man, the Toledo Museum of Natural History and in many other cities.

The exhibit is not necessarily an expensive form of health education. Elaborateness in exhibits is expensive, but effective exhibits can be made inexpensively. The difficulty with most inexpensive exhibits is that they have not been sufficiently simple. The purpose of the exhibit is to draw attention and create interest, not to teach a whole lesson. Once interest is aroused, study can be facilitated by the use of other related media, such as pamphlets, books, lectures, motion pictures and study courses. The appeal of the exhibit is to the eye; it is essentially a flash appeal. The first impression is the important one. Attention to an exhibit is best secured by action, light, color, or combinations. The best exhibit is enhanced in effectiveness many times if a courteous, interested attendant is present to explain it.

H. Armstrong Roberts

VOCATIONAL guidance experts today are looking ahead to the time—perhaps not far distant—when one of the most important of their professional functions will be the vocational rehabilitation of disabled veterans of World War II. Inevitably, this war is adding to the number of those who must face life in the future with one or another of the serious physical handicaps which are always the aftermath of armed conflict. Moreover, we must still face the possibility that such disabilities will not be limited to those who have served abroad with the armed forces. Our civilian populations have thus far been spared from war disasters; it is by no means certain that this good fortune will prevail for the duration.

In any event, whether physical handicaps exist as a result of some congenital defect, accident or illness in civil life or war injury, they must be faced intelligently if the handicapped person is to keep his rightful place in society. Often, the regular channels of employment are closed to those with handicaps; they must be self employed, or they must work at self made jobs. The following actual experiences of men and women who have created their own occupations may be helpful alike to many whose employment opportunities are restricted by some handicap and to normal people who are vocationally maladjusted—perhaps temperamentally unsuited to working with others.

The woman office worker past 40, if she is unemployed, faces a far greater problem than the unemployed man of the same age. The prejudice among employers against the middle aged woman in the office—often nervous and jittery from fear of losing her job—is widespread and hard to overcome. The competition, moreover, from youthful office workers is keen. A solution of this problem, however, is possible through part time service by individuals seeking self employment.

Secretarial work by the hour may be found in most cities and towns. In every office building of some size, for instance, there are business and professional men who do not need the services of a full time secretary; they would be only too glad to have a part time secretary call each day to attend to the needed correspondence or office work. With several such jobs, a living is assured. This was proved by an elderly stenographer whose services in a certain locality of her town were in constant demand. Daily she called at her places of employment, charging 50 cents an hour for her duties. This enabled her to support herself without fear of dismissal because of the age handicap.

Harold S., a bookkeeper who rarely got along well with fellow employees and therefore was often without a job, finally helped himself to congenial employment by using his old trailer as an office in which to act as accountant for a number of firms in his community. Some of these firms either lacked the space to put up another employee or they did not require the services of a full time bookkeeper.

Harold cleared the trailer of everything that was not needed in his undertaking, furnished it with a second hand desk, chairs, typewriter and adding machine. The latter he secured on the time payment plan. Thus equipped, he drove forth every morning to attend to the business of the firms for which he had taken up work. A sign on the side of the trailer gives his name and address and also states his calling. Advertising in this manner, he soon had as many customers as he could take care of, earned enough to support himself. Without daily friction with other employees, he could do much better work

Many of the smaller business men are simply unable to cope with the more recent government regulations governing income tax statements or social security which require them to change time-honored bookkeeping systems. These innovations usually find them perplexed. Here is a real opportunity for the handicapped office worker who can successfully look after such details for a certain sum each month, depending on the amount of work to be done. Firm names may be taken from telephone directories, they may be obtained through advertisements in the daily press, or through friends.

There is, moreover, an opportunity for a specialist of this kind in districts inhabited by foreigners. They often fall prey to unscrupulous "counselors" who take advantage of their ignorance. A notary public appointment is advisable in these cases. Everything that adds prestige to such an office will prove of advantage.

Mrs. Peggy Hurd, a widow with two children to support, makes a specialty of finding summer quarters in the city for out of town visitors and locating summer quarters in the country or in the suburbs for city dwellers. Resolutely she goes about it, advertising her services in shopping columns of daily newspapers. She is also known to real estate firms who send business her way.

If the Joneses, for instance, wish to rent their suburban cottage for the summer months while they take that long-cherished trip to mountains or seashore, Mrs. Hurd hunts up a family who will appreciate the opportunity of enjoying the comforts of the Jones' home, close to the city for people who have to commute to business. A charge is made to both the departing and arriving parties.

During the fall and winter months, Mrs. Hurd assists busy people who have decided to move to find the places they want. Business couples and harassed mothers are good prospects to an agency of the kind she manages. There is no need of financial investment in such an undertaking; a card file with names of present and prospective tenants and a telephone represent the necessary equipment.

Every city of some size has numerous building lofts that have been vacant for a long time. Peter C., a jobless, hard of hearing man, noticed this in his search for employment, hit on the idea of trying to rent such lofts for other purposes than regular business. He knew of a growing club that had no headquarters and suggested one of the lofts he had seen to the committee looking for a place. The real estate agents were contacted at once, and a commission for renting it to his prospects was agreed on. The deal was clinched and he earned the commis- *(Continued on page 143)*

HEALTH EXHIBITS

For Fairs and Expositions

The war has emphasized the need for better health, resulting in an increased demand for health exhibits at all places where public gatherings are held

By THOMAS G. HULL

THE AMERICAN MEDICAL ASSOCIATION has prepared exhibits for the public at fairs and expositions, which are available on a loan basis.

Requests for material should be instituted as far in advance as possible, so that the proper reservations can be made. Requests from groups other than medical societies should be made through the secretary of the local county or state medical society, or approval of such society obtained. Exact shipping addresses and dates should be given when the request is made.

Responsibility for installation and demonstration of the exhibits ordinarily must be borne by the organization to which the material is lent. The American Medical Association does not have the personnel for such duties.

Expenses include the items incidental to the installation and demonstration of the exhibit, as well as transportation charges both ways. Shipments will be made either by freight or by express, according to request. Further information may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Ill.

1. YOUR BONES AND MUSCLES

An anatomic exhibit consisting of an x-ray transparency showing the human body in full length and two visitor participation units showing the three types of levers found in the body and the mechanism of the different types of joints. There are two panels showing charts of the bones and muscles. The shipping cases are used for pedestals and no tables or background are needed.

Space required, an area 10 feet wide by 6 feet deep.

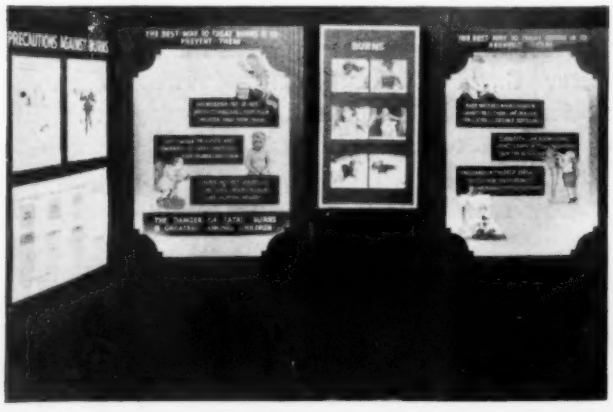
Electrical requirements, three outlets for lamps, totaling about 500 watts.

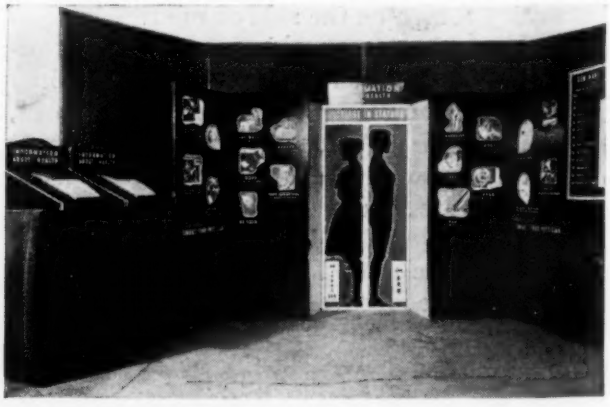
Shipping weight, 443 pounds.

2. THE SKIN IN HEALTH AND DISEASE

An exhibit consisting of a mechanical model together with a wet and dry bulb thermometer showing the effects of heat and cold on the skin; four panels with posters showing formation of the skin, care of the skin and diseases of the skin; a skin thermometer where the visitor may take the temperature of his own skin. An information file contains additional information about the skin.

Space required, an area 10 feet wide by 6 feet deep; no background necessary. Two





small tables are required for the exposition file and skin thermometer.

Electrical requirements, one connection for mechanical model, about 200 watts.

Shipping weight, 360 pounds.

3. THE RESPIRATORY SYSTEM IN HEALTH AND DISEASE

An exhibit consisting of three visitor participation units showing a pair of rubber lungs and how they expand when the diaphragm is pulled down, the bronchoscope with a collection of foreign bodies found in the lungs and the nasopharyngoscope and how it is used. Several panels contain posters showing the anatomic structure of the lungs, pneumothorax, tuberculosis, silicosis, pneumonia and the common cold.

Space required, an area 10 feet wide by 6 feet deep. No tables or back walls are needed.

Electrical requirements, three outlets for lamps totaling about 200 watts.

Shipping weight, 479 pounds.

4. THE GASTROINTESTINAL TRACT

An exhibit consisting of a transparency showing the gastrointestinal tract; four panels with posters showing details of the mouth, the stomach, the small intestine and the large intestine; two visitor participation models showing how the physician uses the gastroscope and the proctoscope.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical requirements, three outlets totaling about 300 watts.

Shipping weight, about 500 pounds.

5. INFORMATION ABOUT HEALTH

An exhibit consisting of two silhouettes, showing the increase in stature during the past forty years, together with a selection of posters dealing with the various factors which contribute to health. Two sets of information files contain additional information about health.

Space required, an area 10 feet wide by 6 feet deep. No background necessary. Two small tables needed for the exposition files.

Electrical requirements, none.

Shipping weight, 479 pounds.

6. THE HUMAN FACTORY

An exhibit consisting of a transparency showing the human body in the form of a factory, together with posters depicting various functions of the "factory." Three information files contain additional information.

Space required, an area 10 feet wide by 6 feet deep. No background necessary. Small tables are needed for the human factory transparency and the exposition files.

Electrical requirements, one outlet for lamps totaling 150 watts.

Shipping weight, 385 pounds.

7. YOUR HEALTH

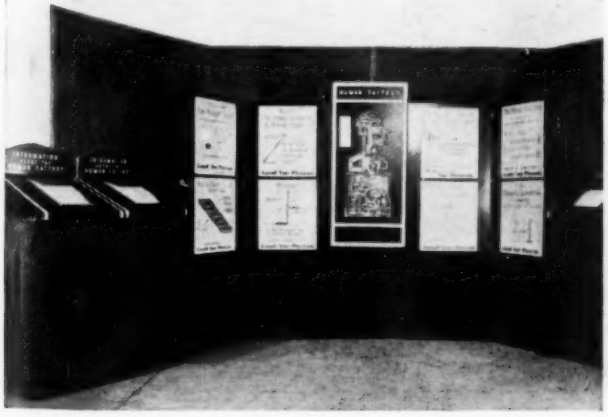
A poster and pamphlet display showing material available from the American Medical Association. Three sets of health posters are mounted on boards to set on the table where visitors may peruse them. In addition there are four information files containing approximately one hundred and fifty questions and answers about health, together with a question box for use of visitors.

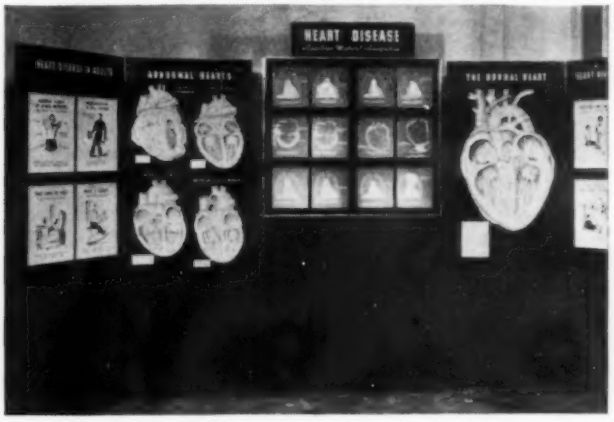
Space required, an area 16 feet wide by 6 feet deep, with a back wall for posters and tables in front for pamphlets and information files.

Electrical connections, none.

Shipping weight, 340 pounds.

(Continued on page 132)





New Limbs

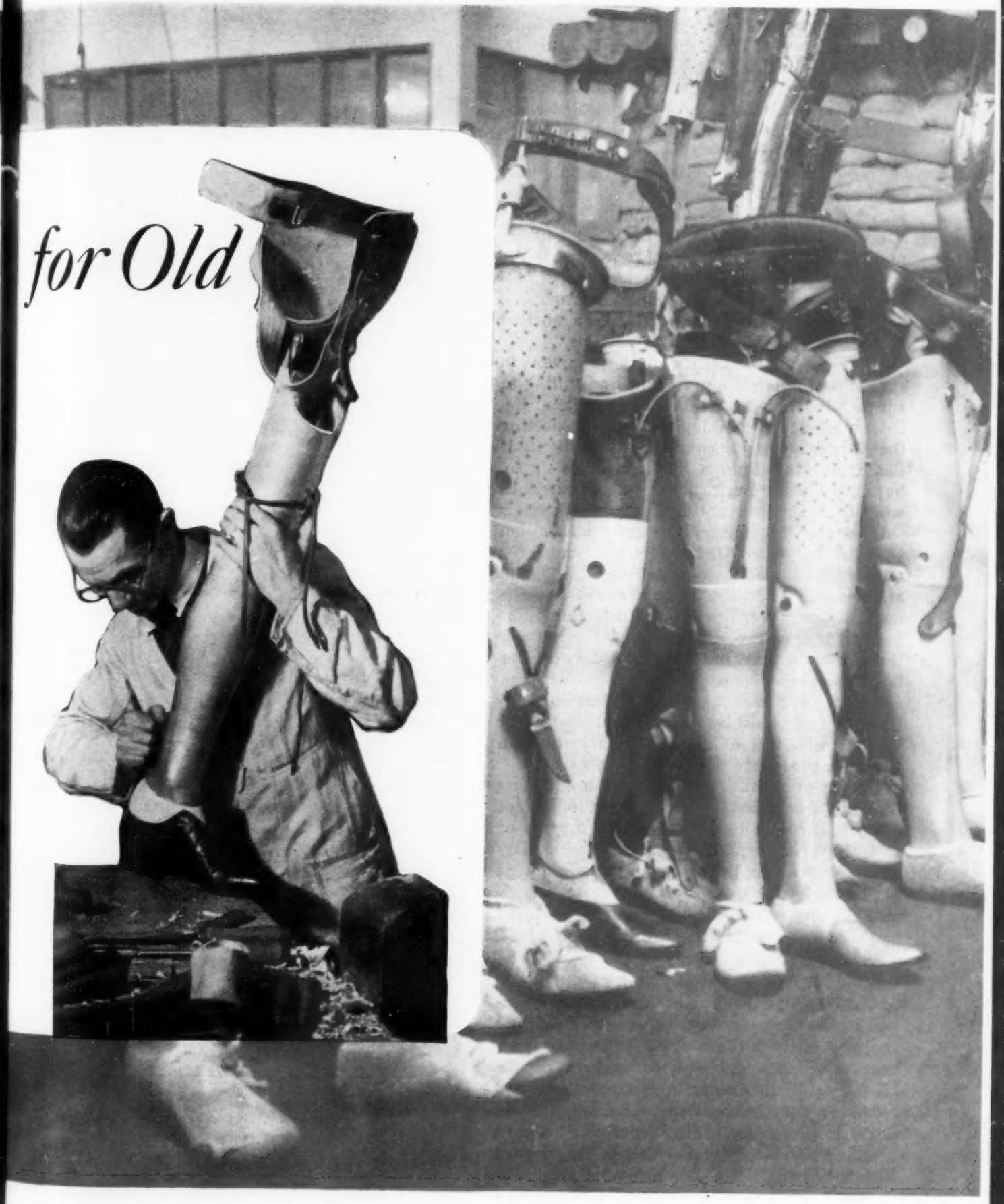
By MARY BRADLEY

BRITAIN'S air raid victims are going back to work by thousands. The country is giving them the best treatment—surgical, medical and psychologic—that can be had, and they in their turn are anxious to get going on war work again.

This "back to normal" movement extends even to those who lost limbs, for whom the British Ministry of Pensions is providing free of charge the best artificial arms and legs. Rarely do easy jobs or light work have to be found for them; they go back nearly always to the same work they left. Moreover, there is every chance that the extra training they get with their new limbs will make them better workmen—or women—than before.

The biggest limb-fitting center in the country is attached to Queen Mary's Hospital, in the London suburb of Roehampton, which serves thirty-six English counties. There during the last twenty-five years the science of limb fitting has been formulated. Originally the hospital was for Service amputation cases only, but of recent years it has expanded to take civilian patients too; in addition it provides a specialized training course in this branch for every doctor on the staff of Ministry of Pensions hospitals.

for Old



Director of the Center and Chief Limb-fitting Surgeon to the Ministry is Dr. Roy D. Langdale Kelham. Working under him are three surgeons who specialize in this kind of work. One of them is a highly qualified engineer. There are also two technical inspectors on the staff.

"We don't want our patients to become hospital-conscious," Dr. Kelham emphasizes. "The idea is to let them live a normal life at home and visit the hospital only for measuring, fitting and tuition. The Government pays car or railroad fares and will even send an auto or ambulance if the case cannot use public transport. Within four months of amputation a normal case should be walking on his new leg."

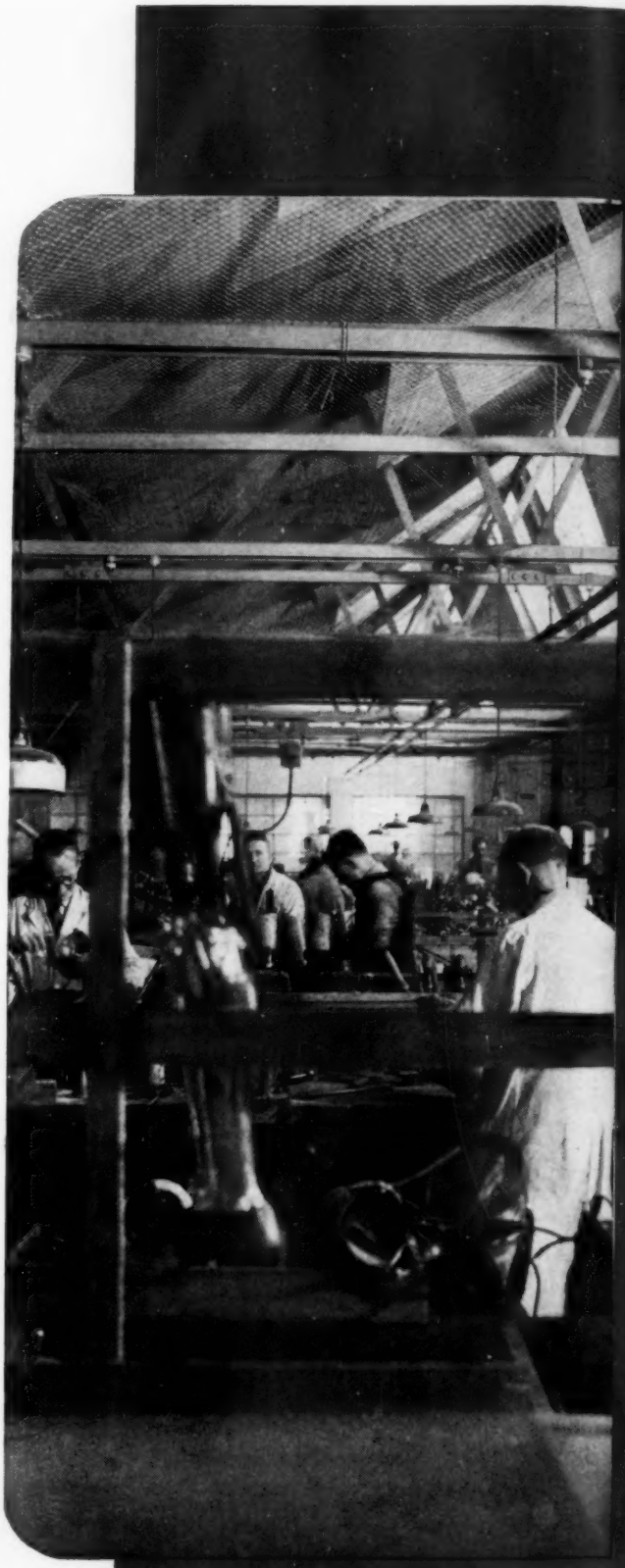
Much of Dr. Kelham's time is given to spreading the latest news about limb fitting to surgeons and medical students throughout the British Isles. He combines this with inspecting the Center's sixteen subdepots and often, if the lecture is within a hundred miles or so, he takes his star performers to show surgeons what their limbless patients could achieve.

Over the last fourteen years Roehampton Hospital has fitted 20,422 new legs and 2,959 new arms. Attendances have been 199,062, and at the moment between 50 and 60 patients come back daily for repairs and adjustments. For the first year or two, a patient may need two or three visits a year, but after that once a year is average.

Among *blitz* casualties the legs lost outnumbered the arms lost by three to one. For every woman who lost a leg, two men lost them. Four per cent were double amputations.

Twenty-one children under 15 are among the raid casualties. One of them, a boy of 3½ years, comes back every three months or so to have his leg lengthened. An older boy with a new arm is turning into a first rate gardener, has learned to dig, wheel a barrow and do any job about the garden. A small girl who lost a leg is going around on a bicycle.

The biggest limb factory in the world is on the hospital premises; it can turn out about 10,000 legs a year. The limb makers are contractors to the government and work in closest cooperation with the surgeons. Twenty thousand case files are on the shelves of the Ministry's Limb Center, and from them and from the patients' own suggestions, limbs improve in design and utility from year to year. Lifelong service is given free to the patient with every limb, the cost being borne by the government.



Scene in a limb factory at Roehampton. Modern limb making combines individual craftsmanship and mass production

Representatives of Allied governments here are examining an artificial limb in the making at Queen Mary's Hospital

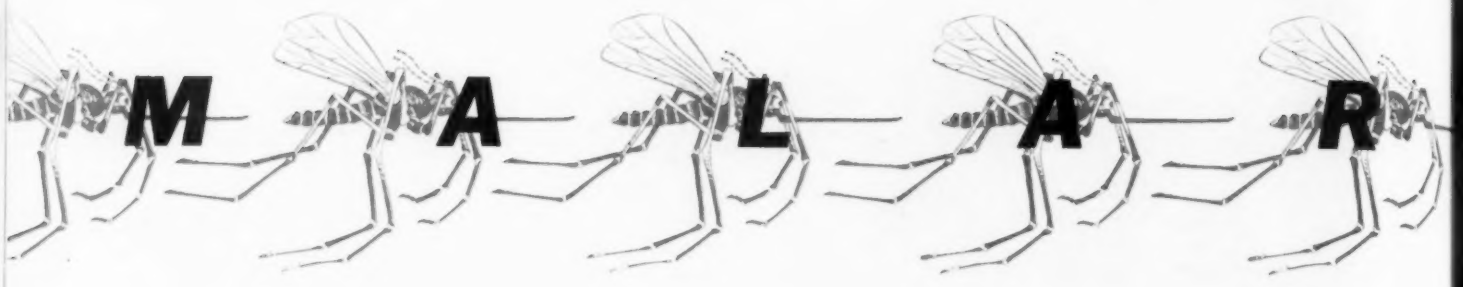
A large number of ex-patients work in the limb factories and technical departments. Some have been there for twenty years; others just do a few weeks' work as training in the full use of the limb. In the Arm Training school at Roehampton, patients get an intensive course in the use of their limbs, learning engineering, carpentry, printing, sign writing, decorating and gardening. Women are taught factory work of various kinds and how to knit or do housework with their artificial arms. The patient then goes on to the Ministry of Labor and has specialized training for the job he or she has chosen. Two other Arm Schools are being set up in the Midlands and in the North.

The principle that arms work on is this: for "best wear" the patient has a delicately carved, flesh-colored hand made to the measurement of his other one. The thumb is on a spring controlled by a thong passing round the shoulder. As he rounds his shoulder slightly, the patient opens his thumb; it snaps to when it has hold of any object.

This hand is detachable at the wrist, and into the socket can go whatever tool fits the job in question. Specially designed gadgets are made to suit individual needs. A Welsh miner invented one of the most useful ones for picking at the coal face, but for ordinary jobs like swinging a mallet, wheeling a barrow, sweeping and anything which can be done by holding, not gripping, an implement, it is ideal. In form and size it represents the oval formed by the thumb and first finger—with a space where the tips of each would be.

With another form of hook I saw an engineering foreman select a cigaret from a package, take a match from a box, strike it and light up. This was done entirely with his artificial right arm. Taking off the hook, he punched over a 60 pound wooden block with his steel stump. "You can afford to take risks with an arm like this," he remarked. "No bruising your knuckles!"

Artificial legs nowadays are hardly detectable to any one who does not know. Weighing only about 5½ pounds, they have delicate but strong mechanism at the joints. The knee has an adjustable knob which can be moved with the hand according to whether the leg is to be tightened for quick walking or loosened for a slower pace. Ordinary shoes of course can be worn, and as in the case of the arms, the limb is made to the natural measurements of the individual. *(Continued on page 122)*



By H. G. QUARITCH WALES

SINCE the rains began in the Southwestern Pacific, we have been hearing more of the toll malaria is taking of United States forces than has been the case since Bataan. The few Pacific islands, such as New Caledonia, which are believed to be malaria free, and even Hawaii, can hardly expect to remain so throughout the war. India, where many American troops are stationed, has been experiencing the worst malaria epidemic for years. Most of the excellent control work that had made Malaya and the Dutch Indies so comparatively healthy will have been ruined by neglect by the time our armies reoccupy them. The most killing disease in the world, and the one that more than any other was responsible for casualties in World War I, is going to be a tremendous factor in the present conflict.

For eighteen years I have lived and wandered as an explorer in India and Southeastern Asia. Naturally, the wonderful advances that scientists have made in malaria control during this period have been of intimate interest to me. Indeed, I may well owe my life to them. In 1940 and the early months of 1941, when I was serving as an intelligence officer in the Indian Army in Malaya, I saw antimalarial work in its military aspects. As reinforcements arrived new camping sites had to be prepared. It was important to make certain that these were as healthy as possible and that every soldier understood what was expected of him.

Malaya may serve as a good general example of a malarious country in the Pacific war zone, although it has to be borne in mind that the problems are complicated for medical officers by variations in local conditions in each country. I choose Malaya firstly because I am personally most familiar with conditions there, and secondly because it is one of the countries in which the problems of malaria control have been most intensively studied. In particular the principles worked out there by Sir Malcolm Watson over a period of twenty-eight years have been widely recognized and applied in many other lands. For example, in 1916 the Rockefeller Foundation sent two leading American scientists to study Malayan methods, and on their return they made great strides with malaria prevention in the United States.

In topography and climatic conditions the Malay Peninsula is not unlike New Guinea, the Solomons and many other Pacific regions in which United States forces are likely to see service. There are ranges of granite mountains running down the center, coastal plains with freshwater swamps and, fringing these, salt or brackish mangrove swamps. In my exploring days I have camped right in those mangrove swamps, but I always kept as close to the sea as possible. I knew that no harmful *Anopheles* haunted the seaward edge of the mangrove swamps and that therefore I was running no risk of malaria. I presume that the Japanese invaders were also in possession of this useful bit of knowledge. It must have been encouraging to them to know that when they came advancing down the Peninsula, outflanking our men by creeping through the outer mangrove swamps, leaping like monkeys from one aerial root to another, they were in no danger of contracting malaria.

But the outer mangrove fringe tells only half the story. In the interior part of the man-

We should be thankful that the United Nations have a vast store of scientific knowledge and experience in controlling and treating malaria

grove swamps, reached only by spring tides, *Anopheles umbrosus* breeds and is a malaria carrier. Again, if the mangrove jungle is felled another species arrives, *A. sundaicus*. Those are facts which could have an important bearing on military operations. One might be compelled to establish a bridgehead on a mangrove coast, where beaches were lacking, to clear an opening in the swamps to improvise a landing place for supplies or even to clear and fill swamps to build an airdrome. One would have to take *A. sundaicus* into consideration.

The significance of this mosquito was discovered in 1901, just in time to save the Malayan west coast port of Port Swettenham, which proved so malarious that the Governor had decided to close it only three months after its opening. It was found that by means of embanking, draining and oiling, *A. sundaicus* could be entirely eradicated. Perhaps the best known example of an airdrome built in a similar environment was the great Singapore airport. This, like part of the city, was constructed on filled-in mangrove swamps. Up to 1911, almost every one living in Singapore expected to get a bout of fever every year, and there was an annual death rate from malaria of between 2,000 and 3,000 in a population of 250,000. In 1939, with three times the population, malaria had been practically stamped out.

Generally speaking the Malayan coastal plains are very malarial, though here again a curious exception is the dangerous looking rice swamps which are quite healthy, and this must have been another point of interest to the Japanese. The coastal plains and foothills of Malaya are the regions that are mostly opened up and under rubber. As they are the habitat of *A. umbrosus*, it is here that most intensive draining and oiling has been carried out by the planters over a number of years. As a result, when seeking a healthy site for a military camp, it was usually sufficient to select an area half a mile away from undrained jungle. One rubber estate manager told me that the unfortunate assistant living in a bungalow on a section of the estate near the jungle edge frequently got malaria, while the others, living in bungalows well away from the jungle, all escaped.

By contrast, the jungle-covered mountains of the interior are malaria free—that is to say, so long as they remain under forest, for if the jungle is cleared *A. maculatus* appears, breeding in sunshine in the steep mountain streams. But the high country is not so likely to be the scene of future fighting as the malarious coastal plains.

It was of course realized from the outset that actual warfare would take place in country where the system of malaria control that was possible under static conditions would be out of the question, or perhaps where, as in many Pacific islands, it had never existed. Ultimately, therefore, every soldier has to realize that his best chance of escaping malaria lies in his observ- *(Continued on page 154)*

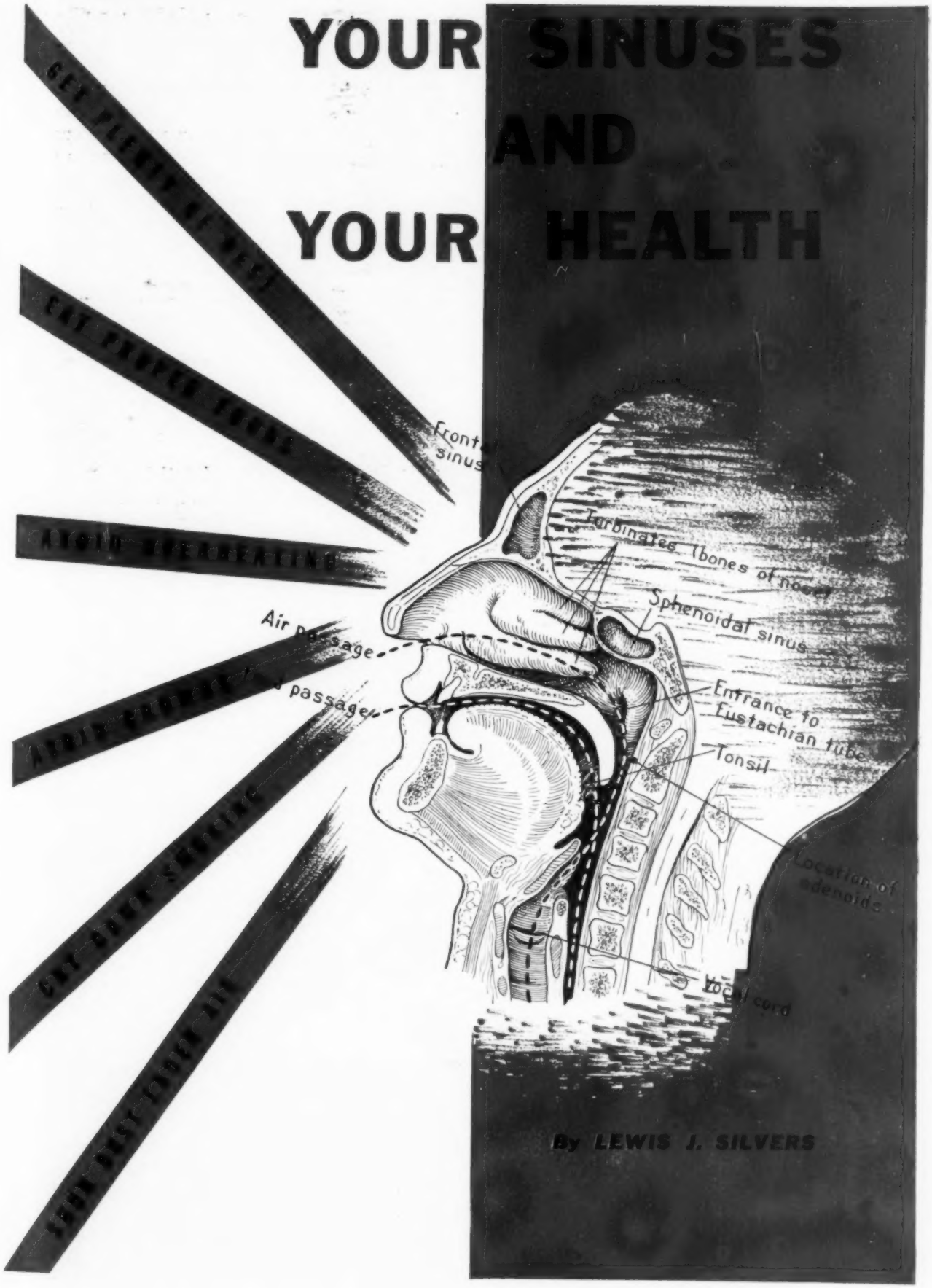
PHENOMENAL progress has been made during the past decade in the diagnosis and treatment of sinus disease. Only recently have we recognized and successfully treated the various types of sinus involvement. Modern medicine now distinguishes between the more common sinus infection and the recently discovered sinus allergy and nutritional deficiency diseases. Any deviation from the normal in any part of the body may affect the entire organism. We cannot expect to enjoy complete well-being unless each of the bodily components is in perfect working order.

Today we no longer need fear disfiguring facial operations when sinus disease is diagnosed. This common affliction of this so-called "temperate climate" is now attacked from many angles. Depending on the indications present, a conservative mode of treatment will usually suffice where radical measures were used in the past. We may now establish nasal ventilation and drainage without the radical removal of the septum in most cases. Electrosurgery is used to shrink down the swollen turbinates of the nose permanently. Irradiation by means of x-ray and radium will remove lymphoid tissue and polyps with a minimum of inconvenience. X-ray is not only used to diagnose sinus disease but is also most efficient in eradicating those factors that make for its recurrence. Deep x-ray and radium therapy are most helpful adjuvants in the cure of this most stubborn disease.

Paranasal sinus disease may be divided into the actute and chronic types. The acute stage is usually self limited, and barring mechanical obstruction in the nose will subside in a few weeks. After six weeks the disease becomes chronic and will remain so until the causative factors are removed. Sinus disease may be infectious or noninfectious. Allergic and nutritional conditions are chiefly responsible for the latter. An ordinary "head cold" occurring in an individual with some obstruction to nasal breathing is the commonest cause of chronic infectious sinusitis. Coryza is a descriptive term which implies a swelling of the nasal mucosa due to an allergic condition. A coryza therefore is of sudden onset and just as sudden disappearance. When you think you have "taken cold" and start to sneeze violently you may only be exposed to some offending irritant. Your "cold" passes in a few hours or perhaps the next morning, and you pat yourself on the back for having good "resistance." Actually, you have either removed the irritating factor or have recovered from a fleeting exposure to the irritant. Few individuals have frequently recurring nose and throat infections. One head cold a season may be seen in the extremely sensitive person. However, an infection actively immunizes us to the prevalent virus at the time of exposure. Rarely then are you exposed to reinfection until the immunity thus obtained wears off in six months or longer. Hence, we may observe that infections occur at much longer intervals and are of longer duration than allergic reactions. The coryza, which is the symptom of nasal allergy, usually occurs at frequent intervals, is irregular and fleeting in its manifestations. Infections are self limited, while allergy either must be eliminated by desensitization or the offending substance must be removed. In any case, if the nasal passages do not permit free ventilation and drainage a resultant inflammation of the mucous membrane covering the sinuses will ensue. It is then only a question of time before a purulent infection appears if drainage is not established.

Since prevention of infection is the order of the day, it is fitting that you ask: How may colds and resultant sinus infection be avoided? First, let me say that the prevention of infection, when an epidemic of "colds" is prevalent, is practically impossible. The building up of passive immunity by means of a course of vaccine injections is effective in some cases. Rest, proper nutrition and the avoidance of crowds are all helpful factors in combating infection. The next best means of prevention of the complications of the ordinary "head cold" is to establish in every person prone to this type of trouble a proper channel for the exit of the products of inflammation. Our sinuses are always secreting a protective mucus which approximates one pint in volume daily. Its function is to enmesh the invading bacteria and with the aid of the common scavenger cells to render these bacteria inert. Normally this secretion is thin, colorless and odorless. When this normal mucus is either lacking or superabundant a state of disease is soon established. We must always remember that the function of the nose is to warm, moisten and filter the air which we breathe. Small, hairlike processes, called cilia, wave freely on the membrane covering the surface of the nasal and sinus cavities. These cilia keep the secretion constantly moving toward the exit of the cavity even against the pull of gravity. Any interference with these *(Continued on page 153)*

YOUR SINUSES AND YOUR HEALTH



By LEWIS J. SILVERS

CHOOSING A DOCTOR

HOW DO YOU choose your doctor? Do you go for miracle cures? Do you select your doctor over the bridge table? Do you take drugs suggested by various advertisements? For medical treatment do you substitute patent medicine, osteopathy, chiropractic or Christian Science? Do you go to a certain doctor because he is the cheapest or most expensive, without knowing anything about his medical proficiency? If you do any of these things and have a real ailment, then Heaven help you, for the doctor cannot. The tragedy of such methods lies not so much in the millions of dollars wasted as in the irreparable loss of health, happiness and in some cases life itself, for misleading remedies keep people from seeking expert medical treatment until it is too late.

If you are among the numerous persons whose medical treatment originated in the sources mentioned, don't get insulted and angry and say that this is a lot of nonsense. Try to keep your mind open, to look at this problem objectively. We all hate to hear things that contradict our philosophies. It affects the sense of security which we fight to maintain even though it sometimes is a false sense of security. We believe that we are logical. But thinking is so often accompanied by emotional forces that the latter becloud the issue. Deep-rooted habits and attitudes, superstitions and practices have a tight hold on us, and it is difficult to escape them. This is especially true in medicine. Sickness makes us lose our sense of security. We become fearful and try anything.

The history of medicine shows the power of old practices and the difficulties of shaking those influences for a more scientific method of treatment. The medicine man has always been important in the tribe. Many unscrupulous persons have taken advantage of such positions. The resulting quackery is still not a thing of the past. Healing messiahs, the laying on of hands, spiritualism, Christian Science, miracles of all sorts appeal to the hopeless and helpless. Psychologically, these methods may help temporarily because of the new hope and courage they give to those who believe in them. But actually and eventually they serve to confuse the issue and delay the early treatment which is often vital to successful medical care.

The physician has always held the respect and usually the affection of his community. Most people feel that he is a public servant; they do not always realize that he has to pay for his own training, often at a sacrifice of time, money and hard work; that he has served periods of free service as an intern or resident physician at hospitals.

The community does not pay the doctor. The doctor is in private practice, yet we feel free to call him to account if we find he is not available at all hours of the day or night! Frequently, the doctor has the same feeling; he has been taught that his duty is to save life no matter what the conditions, the worth or the ability to pay of the individual. Most doctors are so instilled with the idea of service that they look down on the advertising physician. In fact, it is against medical ethics to advertise. A doctor is supposed to think less of remuneration than of human welfare. For this same reason it is definitely against medical ethics for a physician to take out a patent for his own profit on any new discovery he makes. He is supposed to contribute it to humanity.

You may say that some doctors charge large fees. Some do and some don't, and the fee is not always related precisely to the services rendered. In spite of the fact that medical ethics stress service rather than the attainment of wealth, medical men are normal human beings with normal needs. Many of them are in debt for loans incurred while studying. Most of them have families to support. The practice of medicine entails tremendous expense. The average doctor spends 40 per cent of his income for overhead. This means that out of every $5 you pay your doctor, $2 must go for expenses. This includes automobile, office rent, furniture, telephones, nurses, secretaries, equipment and all kinds of expensive supplies.

Practically all doctors give free medical service to some poor *(Continued on page 139)*

What's Your Score?

Your doctor cannot serve you well unless you cooperate with him.

How good a patient are you? Check yes or no for your answer to each of these questions, then look on page 139 and figure your score.

1. Do you select your doctor on the advice of neighbors? YES NO
2. Do you take medicine advertised in papers or over the radio? YES NO
3. Do you shop around from one doctor to another? YES NO
4. Do you confide in your doctor and tell him the truth? YES NO
5. Do you carry out your doctor's instructions faithfully? YES NO
6. Do you try to make most of your calls at a reasonable time? YES NO
7. Do you pay your doctor bills promptly? YES NO
8. Do you try to get a discount on your doctor bills? YES NO
9. Do you choose your doctor on the basis of ability rather than charm or salesmanship? YES NO
10. Do you make a list of the questions you want to ask your doctor so that you will not have to phone him unnecessarily? YES NO
11. Are you prompt for your appointments? YES NO
12. Do you try to cooperate with your doctor in every way? YES NO
13. Do you secretly go to one doctor while you are under the care of another doctor? YES NO
14. Do you make many phone calls about unimportant things? YES NO
15. Do you call the doctor promptly when sickness occurs? YES NO

By ROSE ZELIGS

The Red Cross Blood Donor Service

Condensed from a radio interview featuring Arno Holm, former director of the blood procurement service, Chicago chapter, American Red Cross, and Edwin P. Jordan, M.D., assistant editor, The Journal of the American Medical Association

MR. HOLM: IN COOPERATION with the American Red Cross, the Army, the Navy and the Office of Civilian Defense have charge of the procurement of blood obtained by voluntary donations throughout the United States. Dr. Jordan, would you tell what is done with the blood after it is obtained from the people who give it?

DR. JORDAN: First, it is collected in a vacuum container. Then, the liquid portion, which is known as plasma, is separated from the red cells in a centrifuge—an instrument somewhat similar to a cream separator and working along the same general principles. The plasma is the portion which is given to the patient when transfusion is required. This plasma is refrigerated and dried by a carefully devised process which has been adopted after many trials. The equipment, incidentally, is quite expensive. In the dried form, it occupies a small amount of space, can be easily preserved, transported, kept sterile and readily prepared for administration, and it is universally adaptable.

MR. HOLM: In this area alone, about 70,000 persons have given blood so far. This represents some 45,000 who have given blood once, 13,000 who have given twice and 9,000 who have given more than twice. What is the opinion of the medical profession on whether or not the donation of blood harms the person who gives it?

DR. JORDAN: The giving of blood in reasonable quantities by normal persons is not harmful if it isn't repeated too often. The liquid loss is made up rapidly, and in normal persons the red blood cells and hemoglobin are also rapidly restored. The administration of iron compounds, when recommended by a physician, will often speed the process of restoration. The idea that there may be some permanent bad effect is simply not true. Studies have been made on persons who have given blood repeatedly. One study, for example, has shown that donations of a pint of blood at intervals of four to five weeks are not harmful to men but may produce anemia in some women. For practical purposes, it is usually recommended that blood be given not more often than five times a year, and always at least eight weeks apart. What measures have been adopted by the Red Cross to make sure that all donors are healthy and that taking their blood will harm neither them nor the one to whom the plasma is given?

MR. HOLM: Every person who gives blood has his pulse, temperature, blood pressure and hemoglobin tested—the latter to make sure that there is no anemia. The nurse also asks the prospective donor whether he has ever had any general diseases, such as malaria or tuberculosis. Other questions of a similar nature, related to health, are also asked. These tests and questions protect both donor and recipient. Not more than one pint of blood is removed

at a time. This blood is promptly sent to a laboratory, where it is subjected to scientific tests for sterility and purity.

DR. JORDAN: Who has charge of the actual collection of the blood?

MR. HOLM: A doctor is in charge of each unit, assisted by registered nurses. All are thoroughly trained in the technic of blood collection. This thorough familiarity with the methods of collection means that the blood donor is given the most careful care and protection, and that there is no wastage of the blood.

DR. JORDAN: Do you give any directions to prospective donors about eating before they are to present themselves for the donations?

MR. HOLM: Each prospective donor receives an instruction card with full directions. The donor is asked not to eat any fatty foods for at least four hours previous to the appointments, but of course he doesn't have to starve. Fat in the food immediately before giving blood will make the plasma cloudy and not so satisfactory.

Have there been any reports as yet on the use of the plasma obtained by the Red Cross?

DR. JORDAN: Yes. The plasma obtained by the Red Cross Blood Procurement Service has already saved many lives. Admiral McIntire, Surgeon General of the Navy, for example, has reported that it has often saved the lives of those wounded in battles in and around the Solomon Islands and at sea. At a recent meeting, he stated that it is now possible to give plasma to wounded men even before they have been removed from the field of battle! This, of course, is an entirely new development and will revolutionize early treatment of battle casualties. It is one of the big factors which has reduced the deaths of American wounded to an almost unbelievably low figure. People should realize that when they give blood they are actually taking part in establishing this marvelous record.

MR. HOLM: Can plasma be used for civilian populations as well as for the armed forces?

DR. JORDAN: Yes, if it is given promptly it should be just as useful for shock in civilians as for soldiers and sailors. There is no difference in its use for shock, whether the shock has been suffered by military action or by civilian injury. While we do not have official figures, all the newspaper reports indicate that plasma has been used in quantity and has been highly effective in the recent tragedy of the night club fire at Boston. If plasma is readily available, it can be used equally well for accidents such as that disaster or for emergencies which might occur as the result of enemy attack.

Can you tell us what proportion of the plasma is being saved for civilian emergency? Does it all go to the armed forces at present?

MR. HOLM: I cannot give you the exact proportions. However, the American Red Cross in cooperation with the Office of Civilian Defense is putting aside a large amount of plasma in various carefully chosen locations in case of civilian emergency. Physicians working under the Civilian Defense setup will have rapid and complete access to Red Cross plasma supplies. This is part of the joint planning of the Red Cross and Office of Civilian Defense.

We have all heard about different blood groups—that is, that all people belong to a certain blood group, that there are several of them and that these blood groups cannot be mixed. Does this mean that persons who are injured or in shock must have their blood typed or that their type must be known before they are given a transfusion of plasma?

DR. JORDAN: No. Although blood grouping is necessary for whole blood transfusion because of the presence of the red cells, when plasma is administered, the red cells are absent and cannot cause reactions. It is the red cells which require typing. This is one great advantage of plasma. When typing is not required, much time and skilled work are saved.

Does the Red Cross feel that since it now has a large supply of dried plasma on hand, it is no longer so necessary for people to give their blood?

MR. HOLM: Not at all. This is far from true. As is well known, the armed forces are just now beginning to go into large scale combat, and of course the need for plasma is increasing proportionately. Furthermore, there have been no civilian bombings in this country, so that as yet there is no way of knowing what reserve for the civilian and *(Continued on page 156)*

MYOPIA

NEARSIGHTEDNESS

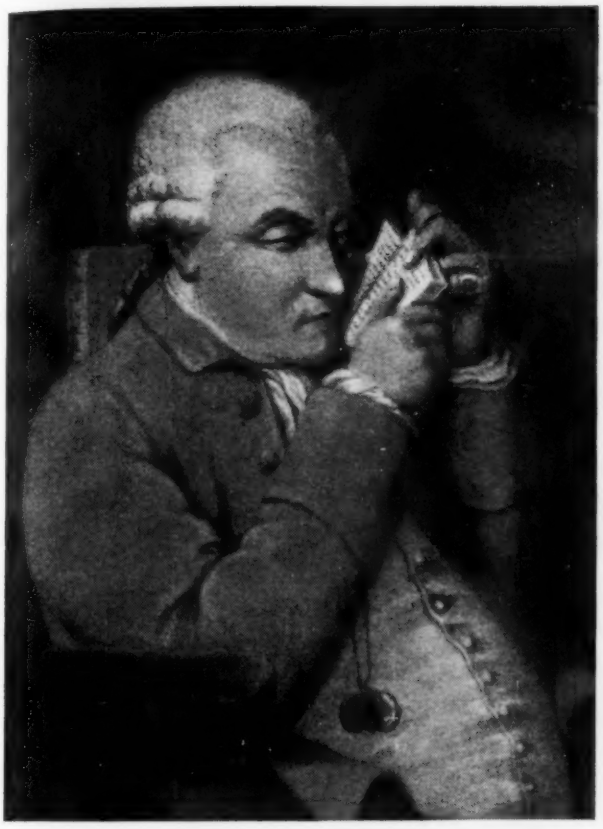
By **DANIEL B. KIRBY**

MYOPIA is a condition in which the image of a distant object is blurred because it is focused in front of the retina, or sensitive, filmlike membrane of the eye. Objects must be close to such an eye to be seen clearly. Concave glasses of the proper strength or diverging power will disperse the rays so that a clear image of a distant object is possible and distinct vision is obtained.

The eyes of the newborn child are usually farsighted, and changes normally occur as the body grows. If for some unknown reason the eyeball becomes slightly longer than normal, myopia develops. This tendency is usually manifested during school life, hence the term "school myopia," which is loosely applied to the condition. Most parents are dismayed when this is discovered and it is known that the child may be faced with a progressive condition which may go on to considerable degree.

The human eye is formed by a complex developing process, and it is little wonder that imperfections occur. Actually, the eye is an outgrowth from the brain and an integral part of the nervous system. As a sense organ, it is our most important contact with the world about us. It is part and parcel of the human body and as such cannot be separated from it; its health depends on that of the whole body. It sees because an image of the various objects before it is carried to the brain. Thus the health of the eye and its functions and the prevention of blindness are handled best by those who make the study of the whole body. In many instances apparent myopia, or the necessity for holding things close to the eyes in order to see them, is an indication of the failure of vision through disease of the eye or of the body. Before glasses are ordered or worn, it should be definitely determined whether or not any disease exists.

The poorly developed child of the slums or undernourished refugee children who hold things close to their eyes may not be suffering from simple myopia. They may have poor vision due to disease or to vitamin or other deficiencies. The eye physician can readily tell the difference between these cases. He uses



This old print shows a myopic gentleman struggling with his reading. In elderly people, myopia is likely to develop from changes in the curvature of the lens caused by gradually developing hardening

drops which dilate the pupils and permit him accurately to measure the focus and see the interior of the eyes, even at the preschool age, without any cooperation on the part of the young sufferer. The drops set at rest temporarily the active muscles of the interior of the eye and are an indispensable aid in the test. The presence or absence of local disease of the eye can be demonstrated, and any connection with the condition of the body as a whole becomes known. Nonmedical examiners who are not permitted to use drops have used all sorts of propaganda against them, but the experience of physicians is that they are invaluable. The public should not be deceived.

Certain children are born with faultily developed eyes—such as congenital cataract; glaucoma, or hardened eyeball; scars of inflammations which existed before birth; failure of development of normal pigmented or colored cells, as in albinos; and defects caused by hemorrhage or pressure which occurred during birth. These children are apparently nearsighted, as are those also who develop scars from syphilis, gonorrhea, tuberculosis or other diseases in infancy or early childhood. The contagious diseases, particularly measles, may weaken the general system in the period of growth of the eye and cause thinning of its coats with ensuing myopia.

In adult life, various diseases and poisons may so diminish vision by their effect on the sensitive retina and the nervous tissue of the eye that in the effort to see the patient may appear to be nearsighted. Nicotine, alcohol, diabetes, nephritis and various infections may bring this about. Diabetes especially, with its changes of sugar and salt concentrations in the blood and changes in the fluids of the eye, may cause such "transient" nearsightedness. Patients with unrecognized glaucoma, the insidious disease in which the eyeball becomes harder than normal, may have numerous changes in the focus of their eyes and have their glasses changed frequently over a period of years before they go to an eye physician and have the condition recognized.

Myopia develops in a different form in elderly people as "second sight." The hardening of the crystalline lens of the eye which gradually develops in the aged may go on to an abnormal degree and the curvatures of the lens may change so that even though the length of the eyeball remains the same, the eye becomes myopic. The development of this condition usually is a forerunner of cataract. There are cerain types of slowly developing cataract which make the eye nearsighted. This apparent myopia is eliminated when the cataract is extracted. Simple or axial myopia is that condition in which without apparent disease the eyeball becomes larger than the average or normal sighted eye.

Heredity may be a factor in the development of simple myopia, but farsighted children are often born of myopic parents, and vice versa. Faulty glandular secretion, especially of the factor concerned with growth, may be the cause. It is marvelous that the powerful stimulus of the eye to grow and develop should stop at the right moment. Rather than wonder why a percentage of the population becomes nearsighted, one might better marvel that the greater proportion remains normal! Many theories apart from those of consti- *(Continued on page 140)*

Dentures

By JOCELYN W. TYLER

IF YOU like your new teeth, tell your friends; if you don't, tell your dentist—and thereby do your friends a far sighted service. For, dental artistry being what it is today, more violence is done to the cause of artificial dentures by bad press notices than by any of the painstaking creations turned out by today's reputable dentists.

It's a far cry from the day when we took it for granted that Grandma must whistle through her store teeth, click off a toothy accompaniment to her dinner and set her uppers away each night in a cup on the shelf. There is an unmistakable dating on tales like that of the up-country trapper who rushed off to his train with the hotel's best washbowl under his arm—his teeth frozen fast in three inches of ice!

Dentures—1942 for "false teeth"—are here to stay. And 90 per cent of the time they stay in the owner's mouth, day and night—"doctor's orders." There's a reason why dentists nowa-

in Dentures

days usually instruct patients to keep their new teeth in place continuously—just as there is sound scientific planning behind all the details of denture work today.

In fact, the entire procedure of putting aside Nature's outworn molars for a brand new set of man made masticators has been developed by science, artistry and common sense to a degree where we, the wearers, can approach the experience with little fear of its inconveniences and much hope of satisfaction.

With all that dental art can do to make artificial teeth acceptable, however, there is a point where art is obliged to turn over the job to psychology. From that point on, the denture wearer must help himself—but not alone and unaided.

Dentists are keenly aware that their ability to help with the psychologic adjustments does have limits, as evidenced by a recent article on the subject in the *Journal* of the American Dental Association. *(Continued on page 150)*

VIRUS

By ALLEN S. JOHNSON

DURING the last half of the nineteenth century, the long standing controversy over spontaneous generation reached a climax with the researches of Pasteur. Since the time of Aristotle it had been generally believed that life could arise "de novo" from lifeless material. The writings of Virgil, Ovid and Pliny reflected this view, and Van Helmont in the sixteenth century gave a celebrated recipe to create mice by putting some dirty linen in a receptacle and adding a few grains of wheat or a piece of cheese. To be sure, there were dissenting voices. Francesco Redi showed that the worms found in rotten meat did not appear spontaneously. For, if the meat were covered with gauze, the flies laid their eggs on the gauze and from these eggs hatched the worms which had been supposed to begin life spontaneously in the meat itself. But even the invention of the microscope in the late 1600's did not silence the protagonists of spontaneous generation: How else could be explained those minute bodies capable of producing a million descendants in less than forty-eight hours? In the middle of the eighteenth century, Spallanzani performed a significant experiment which foreshadowed the work of Pasteur one hundred years later. He sterilized putrescent animal matter by boiling it in suitable vases which were then hermetically sealed. When subsequently re-examined, the material revealed "not the slightest trace of animalculae." A century later, Pasteur carried out his classic experiments on fermentation.

Just as the souring of wine and the disease of silk worms were shown to be bacterial in origin, so a host of human maladies were demonstrated to have a kindred causation. But before the dawn of the twentieth century it was recognized that certain infectious diseases were caused by agents so small that they were not held back by the pores of a filter that sufficed to trap bacteria. It is interesting that the first clues as to the existence of such submicroscopic viruses resulted from Iwanowski's study of tobacco mosaic disease in 1892, just as the first clues as to the nature of viruses came from Stanley's researches on tobacco mosaic in 1935. Unfortunately, Iwanowski did not appreciate the significance of his observations, and it remained for Beijerinck in 1898 to recognize that one of the group of infectious, disease-producing agents which we now call viruses differed from ordinary bacteria. Then followed the recognition of the foot and mouth disease in cattle as the first virus disease of animals. Later, smallpox, rabies, psittacosis, yellow fever, encephalitis, infantile paralysis, distemper and a variety of other animal and plant diseases were found after painstaking experimentation over a period of years to be due to different viruses.

It may be well at first to describe certain peculiarities of virus caused diseases. The mode of spread probably varies with the disease. Equine encephalitis, which may affect humans, and yellow fever are apparently spread by various types of mos- *(Continued on page 136)*

If we could enlarge our microscopic world until the diameter of a red blood cell were about 55 feet (A, opposite page), a large bacterium might measure 5 feet (B), the virus of smallpox about 15 inches (C), the virus of yellow fever about 2 inches (D), and the virus of infantile paralysis 1 inch (E)!

A.
B.
C.
D.
E.

First rule of good hospital behavior is conformity to routines which have been established for the comfort of all!

BE A GOOD

By ARTHUR P. TREWHELLA

THE ANCIENT fear of going to the hospital is gradually disappearing. Most people have been forced to realize that the hospital is the best place to be when the doctor so advises. And few of us reach old age without at some time or another occupying a hospital bed. If we must be patients, why not be good ones? Yet there are those who are unreasonable in the sick room, even beyond the usual allowances for "well, he (or she) is sick, you know."

Observing the vagaries of behavior in patients and the amazing lack of etiquet among even the supposedly cultured during hospitalization, one wonders whether this is due to abysmal ignorance or plain selfishness! Let us be charitable in the assumption that the former is the case, and by the following suggestions, try to guide the uninitiated.

In the Admitting Office

1. Don't resent the multiplicity of questions asked by the clerk on admission.
2. Don't argue about paying in advance.
3. Don't demand that the clerk interview you ahead of your turn because you are Dr. dePuyster's patient.
4. Don't try to impress the office personnel by being conspicuous.
5. Don't resent, glare at, or insult the fellow who managed to get there before you—he, too, has a right to be ill.
6. Don't waste the clerk's time with flippancy, gory details of your symptoms, a synopsis of your health theories or your business successes.
7. Don't hold up the line just because you were delayed.
8. Don't moan, groan, or verbally atone for your sins in the clerk's office. Noise disturbs the sick.
9. Don't play to the audience of others waiting for admission. Your histrionics in such an atmosphere are wasted.

In the Admitting Room

1. Don't waste the time of busy attendants.
2. If the rules require a "bath on admission"—then take a bath.
3. If able to undress yourself, do so—the help is for those who need it.
4. Don't argue about being transported to your room by stretcher or wheelchair. The nurse or orderly is acting on orders, and you'll go that way in spite of the inference as to your ability to navigate under your own power.
5. Don't complain about checking all valuables, that's to avoid your complaining later!

In Your Hospital Room

1. Cheer up—it isn't your bier. Tears aren't indicated merely because it is private.

PATIENT!

2 Don't demand the immediate presence of the doctor and head nurse.
You are only one small part of a day's work.

3 Don't resent or sneer at the arrival of the intern. Likely, he isn't half as impressed with you.

4 Don't object to the many questions he must ask you; that is one of his duties, and it isn't pleasant for him, either.

5 Don't refuse examination by the intern. That is part of the routine.

6 Don't question the intern's authority to give you a hypodermic injection, take a blood specimen, or otherwise carry out the instructions your doctor has given him.

7 Don't ever ask the intern, "When will you be a doctor?" He has already been graduated from medical school and has his degree. He *is* a doctor!

8 Don't tell the intern "what a cinch he has being around all those pretty nurses." That is strictly Hollywood.

9 Don't refuse to go to bed, if so ordered.

10 Don't be insulted at the taking of a Wassermann test (for syphilis). Nobody is accusing you of immorality; the test is routine.

11 Don't give orders. As the patient, you are on the receiving end, so be gracious about it.

12 Don't be misled by those "in the know" that the more fuss you raise the quicker you'll get attention. Remember the boy who cried "wolf."

13 Don't jibe the nurses. Be respectful.

14 When you're allowed to be out of bed, don't go snooping: "Private" and "No Visitors" signs mean exactly what they say.

15 If you visit other patients, be cheerful, be brief and refrain from airing your complaints. They have troubles of their own.

16 Never enter through a closed door without knocking. There may be a definite reason for the door being closed.

17 Keep your visitors reasonably quiet. The hospital is no place for a gala reunion.

(Continued on page 131)

Since an efficient hospital must have discipline, a definite routine is essential. The American College of Surgeons prescribes certain rules and regulations for approval of recognized hospitals. Routine is often annoying, but there is a good reason for every part of it. The questions asked by the admitting clerk may irk you, but you would offer little resistance when a bank or loan company checked your credit rating. You pay your rent and telephone bill in advance without demonstration. The fact is, the greater number of hospitals are nonprofit organizations, and the annual deficit is a staggering amount. You may lament that you don't mind paying for yourself but object to paying for the "free cases" in the hospital; in that case, give up your community chest subscription and forget the war relief agencies. Like the hospital, they all function on the theory of helping a fellow when he's down.

If there is any place on earth where a "phoney" stands out, it is in the hospital. Don't label yourself thus. A hospital is not a social club. Your would-be prominence and any preferences you believe due you are so much excess baggage there. *(Continued on page 131)*

Frequently, patients in the children's department set the highest standards of behavior. Cheerfulness is invaluable!

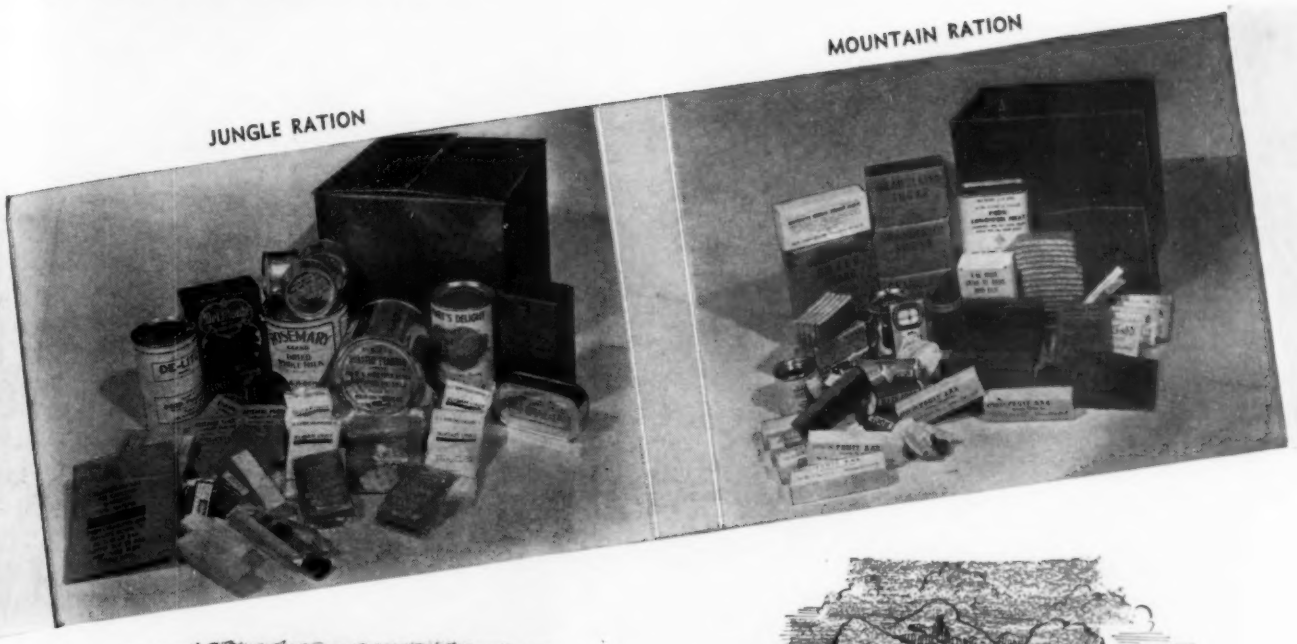
Fighting FOODS

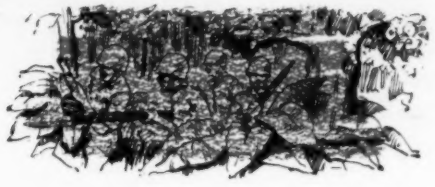
Government officials and nutrition experts tell the story of the Army's "vest pocket" rations

THE AVERAGE American soldier gains 8 pounds in his first three months of service—conclusive proof of the Army's determination to provide an abundance of high quality foods for our fighting men. As far as the Army Quartermaster Corps is concerned, however, the 8 pound gain of the soldier in U. S. training camps is only the beginning. Biggest food buyer in the world, the QMC has undertaken the gigantic task of making certain that the riches of America's fields, pastures, dairies, ranches and orchards shall accompany the men who are fighting for freedom wherever the fight may take them. That our men fighting today under all sorts of conditions in all corners of the globe are still the best fed soldiers in the world is the result of years of careful planning and research, months of painstaking tests, in the Subsistence Research Laboratories of the Chicago Quartermaster's Depot in the Sixth Service Command area.

A visit to the laboratory makes it immediately apparent that the "best fed soldier" doesn't get that way by accident. Headed by Colonel Rohland A. Isker, the laboratory contains a miniature canning plant for experimental work; it conducts exhaustive tests to determine the best methods of cooking vegetables without losing vitamins and other food values; it works closely with food manufacturers, testing new food items that are constantly being developed in the all-out effort to which manufacturers everywhere are giving their whole hearted cooperation; it experiments with dehydrated foods—a wartime innovation which already is making it possible for

By R. M. CUNNINGHAM, Jr.





our troops in extreme climates to enjoy tasty, healthful green vegetables; it has planned, developed, tested and approved the special rations required for combatants who may be removed or cut off from sources of supply in mountains, jungles or deserts. For these men, survival to fight again may depend on the availability of highly concentrated, nourishing foods on which to subsist until they rejoin their units. The featherweight "bail out" ration provided for aviators, for example, is a masterpiece of light weight compactness. Weight and bulk are of prime importance in a plane, and a parachutist is likely to be alone; the Quartermaster Corps is taking no chance that a valuable pilot may be lost if food can save him!

The circumstances under which they are to be used govern the size, weight and contents of all Army field rations. The same basic factors, however, are given consideration in every case, according to Colonel Isker. "Nutritional value, palatability, keeping qualities, availability, acceptability, and adaptability to satisfactory packaging in a concentrated form are the watchwords in the development of the components of Army field rations," Colonel Isker stated. These factors must be combined in rations adaptable to all the conditions which combat troops may encounter in a fast-moving war being fought today over and under the high seas, in Arctic cold and in tropical heat, he added.

Men stationed in a locality where all the common foods are available and where "messing"—or preparation and serving—may be handled by trained unit organizations are served Field Ration A, a scientifically balanced diet including a wide assortment of fresh foods. Outfits separated from the usual supply sources of fresh vegetables, fruits and meat but still messing as a unit get Field Ration B. In the B ration, the same balanced variety is furnished, but in this case all the foods are canned or preserved.

Separated from sources of supply and removed or isolated from his unit's field kitchen as well, the soldier gets one or another of the various "vest pocket" or emergency rations, depending on the condition of his surroundings and the nature of the operation he is engaged in. Whatever the emergency, while his rations last he is provided with all the

nourishment modern nutritional science has been able to pack into a convenient, manageable kit.

Soldiers home on leave after maneuvers or actual combat service who have lived on these emergency rations for days at a time are reporting that every kit has its complement of candy. There's a good reason for this. "The many confections included in the Army rations have been selected," says Colonel Isker, "because they meet the rigid requirements of Quartermaster Corps tests and because they assist in maintaining the health and morale of our fighting forces." Army candies, some of which are included in every one of the vest pocket rations, include hard candy, butterscotch wafers, chocolate bars, dextrose tablets, malted milk tablets, malted milk-dextrose tablets, fruit bars and gum. All these the Army labels "confections" and values highly as energy food. In the capsule sized meals which must be carried by parachutists, aviators and advance tank units —where space must be calculated to the fraction of an inch—these confections would be cheap indeed at "their weight in gold"!

Like all Army fare, the emergency rations are the result of prolonged experimentation. Summing up this effort, Colonel Paul P. Logan of the subsistence laboratory staff says: "The contents of all the numerous rations have been selected as a result of extensive laboratory and field tests and after consultation with outstanding doctors, nutritionists and physiologists in and out of the government service." Chiefly responsible for the development of the D ration, the original emergency ration which was known for years simply as the "Logan Bar," Colonel Logan described the various emergency rations which are in use today.

COL. PAUL P. LOGAN

COL. R. A. ISKER

Because of the interest in providing foods with high energy value in concentrated form, the Quartermaster Corps has called for the assistance of the candy industry, among others, throughout the period of experimentation in the development of specific confection products designed to fulfil specific functions in the nourishment of fighting men. Actually, the widespread use of candy for Army rations and for "snacks" in post exchange canteens throughout the world climaxes a transition which over a period of years has changed the typical confectioner's item from a *(Continued on page 128)*

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What Your Doctor Orders...

Filling a prescription is next in importance to writing it. For that reason there exists between pharmacist and doctor a close professional relationship.

And just as it takes something to be a doctor, so does it take something to be a pharmacist. It takes years of study to learn the properties and uses of drugs and medicines, and the scrupulously exact methods of compounding them. It takes a lifetime of study to keep abreast of the developments that are continually being made in the pharmaceutical field.

Because the pharmacist's services, like the doctor's, are vital to the health of the community, he is licensed by the State only after a searching examination into his educational background, his pharmaceutical knowledge and his integrity.

The confidence your doctor has in your pharmacist is a tribute both to the man and to the profession he serves. He merits from you the same degree of confidence that he has already earned from your doctor.

Upjohn
KALAMAZOO, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

IT TAKES MONEY TO WIN — BUY WAR BONDS AND STAMPS

Two Important Letters to the American Public

Metropolitan Life Insurance Company is glad to publish these letters from two prominent government officials

PAUL V. McNUTT, Chairman
War Manpower Commission

To my fellow Americans:

One of the first duties of our people in wartime is to avoid, so far as possible, sickness and disease. Venereal diseases are such a serious threat to our military and industrial efficiency that their control is especially important. It is largely a community responsibility.

By using their influence to see that existing laws operate effectively, public-spirited citizens can do much to clean up local conditions which favor the spread of these diseases. Other steps to take are the organization of educational programs to acquaint every man and woman with the facts about venereal diseases—how to avoid them, where to go for diagnosis and treatment; and a community program of recreation and leisure-time activities for service men, industrial workers, and others.

Let every American do everything possible to defeat this enemy within our gates.

THOMAS PARRAN, Surgeon General, U. S. Public Health Service

To the People of America:

Every community must organize its health forces against the venereal diseases. They can be controlled like other epidemics.

For the individual, the solution of this problem is a personal matter of basic clean living—of avoiding the sources of infection.

If every person in our country accepts full personal and community responsibility, we shall have tremendously improved national health and greater strength in prosecuting the war.

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Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

Frederick H. Ecker, CHAIRMAN OF THE BOARD *Leroy A. Lincoln*, PRESIDENT

1 MADISON AVENUE, NEW YORK, N. Y.

Seventh National Social Hygiene Day is being observed on Wednesday, February 3rd, 1943. The American Social Hygiene Association headquarters, 1790 Broadway, New York City, will gladly send you literature and full particulars.

New Limbs for Old

(Continued from page 101)

The development of the muscles needed to use the leg to the full depends on a carefully planned course of exercises, which gets under way before and while the limb is being made. Crutches are provided while the stump is healing, and when the new limb is ready for fitting, the patient gives it a full tryout before the "flesh" finish is applied. The patient practices for some hours with a tutor, walking up and down before a mirror while the supervisor notes whether jerkiness is due to the patient's muscles or whether an adjustment is needed on the leg. Patients also receive instruction from the medical staff of the institution.

With the limb is included a course in its mechanism—and a spare limb in case of accidents. Minor adjustments can be made by the owner, though there is a special postal section for putting repairs in hand and returning the limb quickly.

No less important than the surgical and engineering skill which goes to build up a new life for the war victim is the doctors' insistence that everything is still within the reach of the average patient. As a result, pilots with no legs or only one arm refuse to be kept on the ground; women with one arm run houses, sew and knit; workers return to mines, yards and factories. No one could be keener than these *blitz* victims to provide the United Nations with the materials to finish destructive warfare for all time!

WAIVER OF PHYSICAL DEFECT

A man who has lost one leg, provided it is below the junction of the middle and lower thirds of the thigh and has been replaced with a satisfactory artificial one, may now be considered acceptable for limited service as an officer of the supply arms and services of the Army, it is revealed in an order issued by the Surgeon General of the Army and published in *The Journal of the American Medical Association.*

Meat

Morale Builder of Wartime Meals

THIS year of 1943 brings American homemakers the opportunity to demonstrate again their time-honored ingenuity.

Every indication shows that there will be enough to eat to assure the good nutrition now needed more than ever in American history.

But there may not always be the things you want to set before your family.

Theoretically, good nutrition is a matter of an adequate amount of essential nutrients, but unless meals are tempting, appetite soon lags, and maintenance of good nutrition becomes difficult.

How to make wartime meals appetizing is the problem your ingenuity must solve. Meat will help you do it with its grand flavor.

Stretch this meat flavor over and into other foods, and they assume a new appetite appeal that will make eyes light up and plates be passed for more.

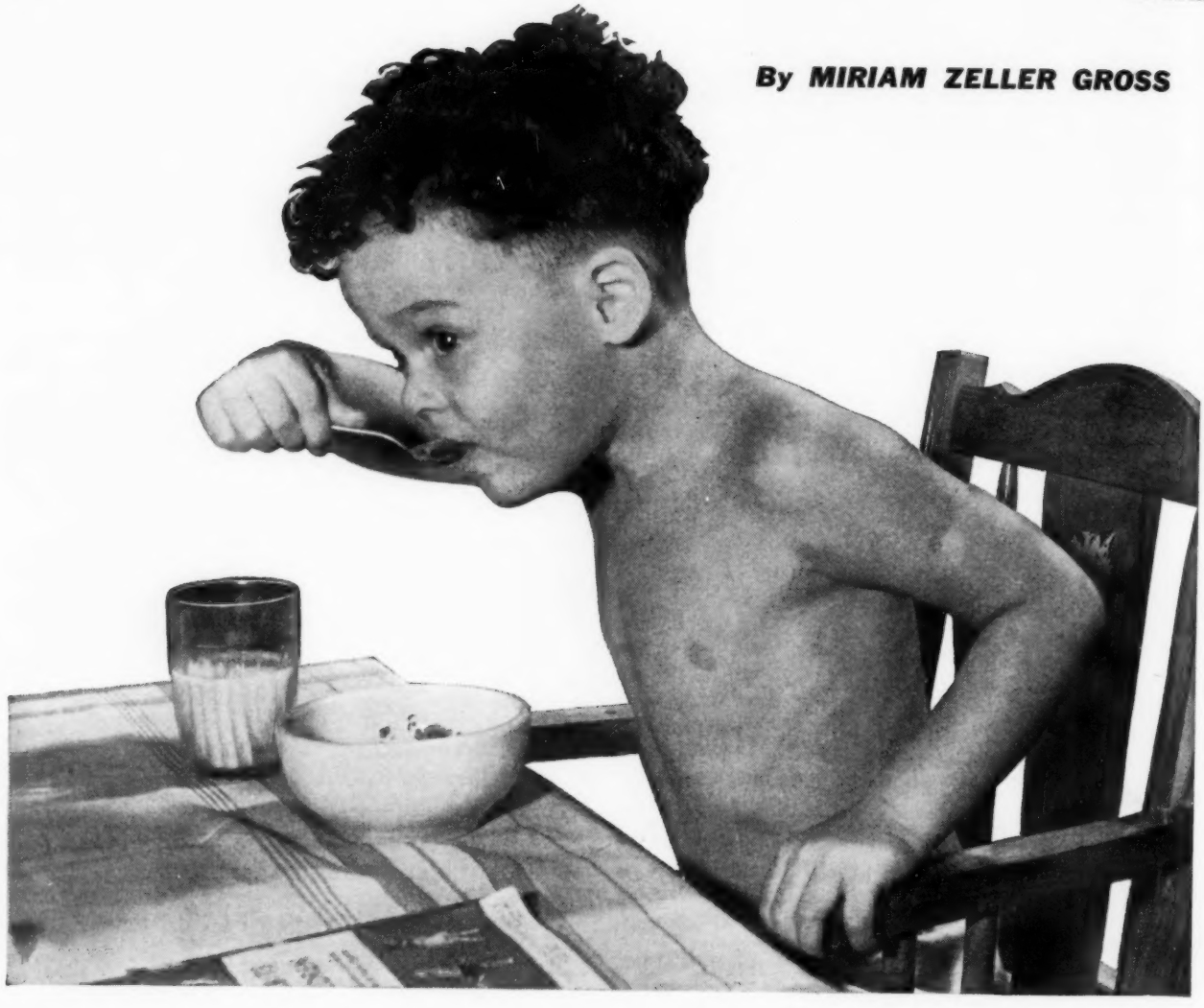
By combining meat with cereal foods and vegetables, in the many ingenious ways that have been devised, you can make your every wartime meal the satisfying occasion it should be.

All meat, regardless of what kind or cuts may be available, is a rich source of complete proteins, the needed B vitamins (thiamine, riboflavin, niacin), the essential minerals, iron, copper, phosphorus.

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

CHICAGO



By MIRIAM ZELLER GROSS

The FOOD We Eat

MANY AMERICANS in the midst of plenty are partially starved. Food taken during the late months of pregnancy will not make a big baby. You do not have to hold down on meat during hot weather. "Heat cramps" may occur in Iceland as well as in India.

These are facts about diet which medical and nutritional authorities in American Universities and research laboratories are presenting in *The Journal* of the American Medical Association. Now appearing as a series of articles, they will later be published in book form. Articles issued so far include those on calories, fats, salt and water, and an introductory discussion of American food habits by Dr. James S. McLester, chairman of the Council on Foods and Nutrition. Council members are preparing the various articles.

The Council on Foods and Nutrition, composed of leading physicians and nutritional scientists, was organized about fifteen years ago to inform physicians and the public concerning the reliability of claims made by manufacturers in the advertising and labeling of foods.

"In attractiveness, keeping qualities, palatability, and digestibility the food today is superior," says Dr. McLester. He goes on to say that even though we are the "best fed" nation and have the most adequately nourished Army, our food habits in general need improvement. He points out that some of the processes which make our food attractive also rob it of vitamins and minerals; that these losses in time may outweigh the advantages of modern foods. He says: "To wage successful war a nation must possess not only armed troops of surpassing valor, well equipped, but also, supporting these, a people of inflexible stamina. This last demands that the population be well fed."

As proof that the American diet is inadequate he calls attention to the many neurasthenics, mentally depressed, "minus" personalities

and constitutional inferiorities to be found in most communities. Any or all of these may be borderline cases of malnutrition. He does not go so far as to say that personality and attractiveness are in direct proportion to the kind and amount of food you eat—but he comes close to it!

Progress made in returning lost essentials to food is praised. Particularly mentioned are the vitamin B enrichment of bread, the addition of iodine to salt, and the fish liver oil fortification of oleomargarine. But the physician also says that other than adding vitamin D to milk and vitamin A to butter substitutes, the Council does not approve of adding substances to foods not already found there.

Dr. McLester says that many of our bad food habits are careless oversights, such as leaving a bottle of milk standing on the porch in the sunlight for an hour or more—until it has lost most of its vitamin G, or riboflavin. This loss may be serious if we persist in such carelessness day after day, as milk is one of the main sources from which we get riboflavin. Sunlight destroys it, although most cooking processes, while they may lower its content, do not destroy it.

We are also careless in shopping. Vegetables and fruits should be selected with care. If they are improperly gathered or displayed for long hours, they lose important food essentials. Fruits cut up for salad or cabbage shredded for cole slaw hours before it is served may lose one fourth of its vitamin C. Devitalizing vegetables by long cooking is another bad food habit. This is one of the hardest problems faced by army nutrition officers. Many army cooks were trained before vitamins and minerals were considered important. So, unless retrained and re-educated, they insist on putting vegetables on to cook at the same time as the meat and cook both the same length of time.

Our progress as a nation as well as our health as individuals depends largely on how we eat and how we spend our share of the $12,000,000,000 spent for food each year in this country. Professor W. R. Bloor of the University of Rochester's School of Medicine and Dentistry tells why fats should have a larger place in the American dietary. Fat is needed for the building and activity of all body

VALLEY FORGE

all around the world

and good enriched white bread

In February during this year of war, our thoughts turn to the birthday of the Father of His Country and the hardships his men suffered during that cruel winter at Valley Forge.

This year, we face a second Valley Forge—from the shores of Tripoli to the corner grocery store.

The going will be tough, make no mistake—for all of us!

American bounty, as we have known it, is out for the duration. More and more rationing is on the way.

So let's pull in our belts, get plenty of rest, husband what we have and eat plenty of good, enriched white bread.

For of bread—enriched white bread—there is plenty for all. Plenty for the dinner table. Plenty for the dinner pail of the men who need their strength to make war goods. Plenty for the school lunch box, the after-school snack, before-bed supper. Eat bread—enriched white bread—without stint. It's enriched with certain vitamins and minerals*—nutrients required for all-out wartime activities. Eat many, many slices a day. There's energy in every slice—and there's victory in energy.

* *Thiamine, niacin, and iron.*

Department of Nutrition

American Institute of Baking

10 ROCKEFELLER PLAZA, NEW YORK, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN

Please send me your literature on "Enriched White Bread."

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City..... *State*.....

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Frank's JUMBO PEANUT BUTTER

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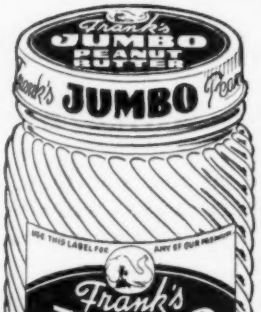

IT'S NO PROBLEM TO MAKE
MILK EASY TO DIGEST

This is the way so widely recommended by doctors

Just add ½ "Junket" Brand Rennet Tablet to a glass of milk, stir until dissolved, let stand 10 to 20 minutes, then drink. That's all. The rennet enzyme causes the milk to form soft, fine, easily digested curds when it reaches the stomach, performing the first step in digestion.

Carry Them in Your Purse

"Junket" Rennet Tablets come in handy tubes of 12 tablets. Vest pocket or purse size. At all druggists and grocers.

FREE TRIAL OFFER

"THE 'JUNKET' FOLKS," Chr. Hansen's Laboratory, Inc., Dept. 332, Little Falls, N. Y.

Please send me FREE SAMPLE packet of "Junket" Rennet Tablets and your illustrated recipe book of rennet-custard desserts.

Name.....

Address.....

City.....

tissues, especially the brain and nerves. It helps keep the organs, blood vessels and nerves in place, gives the pleasing form to the body and serves as an insulator. Fats carry many of the vitamins needed for the growth, upkeep and well-being of the body. Weight for weight, it gives twice the energy of proteins or carbohydrates and is the best food for storing energy through times of food shortage. It also helps mothers to supply milk for their babies.

One fat has about the same food value as another, except for vitamin content. In vitamin content butter and cream probably head the list of fats. They also contain other fat essentials especially needed by children. Most people will be surprised to learn that linseed oil is the most easily absorbed of all fats. Only its flavor keeps it from being an important item of diet. Coconut and some other tropical seeds lack or have little of certain required fatty acids, especially linoleic acid. For this reason nutritionists used to feel that oleomargarine, formerly about 85 per cent coconut oil, was a poor substitute for butter. However most of the coconut oil in oleomargarine has been replaced by other fats, including butter, which contain essential fatty acids. This, plus the vitamin A enrichment, makes our present day oleomargarine a substantial food item.

Dr. Eugene F. Du Bois and Professor William H. Chambers of Cornell University, who discuss calories, join with Professor Bloor in pointing out the importance of fat. They say that earlier food standards calling for 60 per cent to 70 per cent of carbohydrates and little fat in the diet were made before the importance of fats as vitamin carriers was known. Standards now suggest that we eat about the same number of calories in fats as in carbohydrates, with about 15 per cent in proteins. Athletes and men doing heavy, sustained work, when given their choice of food, select almost exactly the ratio these standards suggest. Normal people gage how much they should eat remarkably well by their appetites, but people who get abnormally fat lose this ability.

Calories are units of heat, having to do with body energy. Food is estimated in calories in relation to the fuel it furnishes for body activities. The combustion processes of a man at rest give out heat equal to that of a 60 watt bulb. A man engaging in hard exercise throws off ten times that much. Most of us produce something in between these two extremes.

But it is difficult even for food scientists to determine how many calories a person needs on any one day. Activities shift from day to day and from hour to hour. Food requirements also depend on temperament and habit. Two clerks in the same office doing practically the same kind of work may have quite different food needs; one may be easy going, the other quick and nervous. One either takes the elevator or walks up stairs slowly; the other runs. Walking at 5 miles an hour takes 50 per cent more energy than walking at 3 miles an hour.

Women usually require 10 per cent to 12 per cent less food than men of the same size, but in cold climates they may require the same amount. In very warm places, women need 15 per cent to 20 per cent less than men. Emotion plays a part in food requirements. The unconscious contracting of muscles in excitement, even without detectable motion, means that a person produces 10 per cent to 20 per cent more heat. Temper tantrums and other emotional storms produce heat and call for more food calories in the long run. Children need additional food to take care of growth and energy expenditures. The food allowance for a child over 12 should be the same as that of an adult and in excess of 2,500 calories daily. An active boy of 15 or 16 may need 4,000. Athletes and men doing hard, sustained work require around 4,500 to 7,500. A hospital patient usually requires about 2,000 calories, and the rest of us will find that our requirements are in between these extremes. Pregnancy, lactation and other stress periods may call for extra calories which may be added to good advantage in the form of milk. Mothers should know that extra food leading to weight increase in the latter part of pregnancy helps milk production instead of adding to the baby's weight.

Dr. John H. Talbott of the fatigue laboratory of Harvard University and Massachusetts General Hospital tells of the important role played by salt and water. He says that we

need salt as much as other animals, but somewhere in the process of evolution we lost the ability animals have of knowing when salt is needed. Both salt and water losses through perspiration must be replaced, or we suffer. If they are not replaced, we feel weak and exhausted, lose our appetite, develop nausea and find it hard to think or act. We feel thirsty, but drinking does not stop our thirst unless the water contains salt. The general condition is often called "tropical languor." Muscle cramps and prostration may follow.

Hard work in warm surroundings over an eight hour period may cause one to lose more than 10 to 15 quarts of water along with nearly that many teaspoonfuls of salt. Muscle cramps are no respectors of climate, and "heat cramps" is a misnomer. If people take part in winter sports or indulge in other strenuous activity, they perspire and lose salt. Armies must have salt losses replaced whether they fight in Iceland or India. Not realizing the importance of salt losses during our Army maneuvers in 1941, several hundred soldiers were stricken with muscle cramps.

Prevention is simple. A daily intake of 15 grams of salt will protect most people during hot summer days or in cold weather when they are exercising vigorously. Some get this much salt in their food. Others need to use salt tablets or add salt to their drinking water. Dr. Talbott says that even office workers and others leading quiet lives would do well to increase their salt intake during the summer. They should also drink liberal amounts of water. Nonalcoholic bottled drinks are all right for adults who exercise to any extent.

The old notion that one should not eat much meat or other proteins during the summer is incorrect. On the contrary, plenty of protein has been found helpful; it takes care of protein needs as well as adding salt. Normal persons need not fear that their kidneys will be injured by the additional salt and water taken during hot weather or strenuous exercise. The kidneys are built for the requirements of such a job, although it is always wise to know through regular physical checkups that one's kidneys and other organs are in good condition.

Are you fighting the war in bed?

In these trying times, worry and tension are causing sleeplessness, nervousness, and indigestion, among people previously in good health.

This anxiety is the reason many of these people—quite unconsciously—seek solace in hot coffee.

Now, some people can drink coffee without ill effect, but many *cannot* drink it at all . . . and although coffee may seem to afford relief, it can actually aggravate the condition.

If you happen to be a sufferer from nerves and tension—and you either decide to give up coffee on your own hook, or follow your doctor's advice—it will be more enjoyable if you:

"Drink Postum, Instead!"

Postum is made entirely from homegrown grains, roasted and slightly sweetened. This wholesome beverage contains no caffein—no stimulants whatever.

Don't expect Postum to taste like coffee! It is a delicious drink with its own special flavor—heart-warming, cheering, the *favorite hot drink of millions*. You should drink Postum instead of coffee for two weeks at least . . . then see if you don't get over the effects of caffein—if you don't feel better—if you don't find that this delicious, different-tasting drink removes all hankering of yours for coffee.

Postum is one of the most economical mealtime beverages you can buy; it actually costs less than ½¢ a cup.

Ask Your Doctor About Postum

Postum comes in two forms: Postum Cereal, brewed like coffee; Instant Postum, made instantly in the cup. A product of General Foods.

P.S. *Listen to the Aldrich Family Thursday Nights—NBC Network*

FIGHTING FOODS

(Continued from page 120)

sweet consisting mainly of boiled sugar into a wholesome food product containing many of the vital dietary elements. A recent analysis of several of the most popular candy items shows that they contain 7.3 per cent protein, 47.2 per cent carbohydrates and 45.5 per cent fats. This transition has been noted by many nutrition authorities as well as by the Army Quartermaster Corps. Dr. Morris Fishbein, editor of *The Journal* of the American Medical Association and author of a recently published book called "The National Nutrition," says: "The manufacturers of candy nowadays realize that sugar alone is not the answer to the place of candy in nutrition. Therefore, most candies contain, in addition to sugar, such substances as gelatin, corn syrup, molasses, nuts, fruits, egg powder, milk, chocolate and other ingredients." The Army's use of candy in emergency rations, says Dr. Fishbein, is in line with its place in the diet as recognized by most nutrition experts today. "The Army must be plentifully supplied with carbohydrates," he says, "because soldiers use their muscles far more than do people in ordinary life." Commenting on the Army's use of candy as a supplement to other concentrated foods in the emergency rations, Dr. Fishbein states further: "If candy is eaten in addition to other essential foods, it is exceedingly valuable in maintaining the total energy value."

Colonel Logan acknowledged the QMC's indebtedness to industry for its part in upholding the "best fed soldier" tradition under the difficulties imposed by global war. "The QMC and the War Department are indeed grateful," he said, "for the assistance of producers and processors of food who have aided in the development of these rations. The confectionery, chocolate and gum industries, like other industries whose products are incorporated, have been extremely helpful."

Among the emergency rations now in use all over the world are the following. Although the term is generally used in a broader sense, it should be remembered that, technically, a ration constitutes the amount of food needed for one man for one day:

C RATION

Designed for general use by combat troops, the C Ration consists of six 12 ounce cans of meat and beans, meat and vegetable hash, and meat and vegetable stew. Choice cuts of beef and pork, Irish potatoes, onions, carrots, white beans, tomato juice and wholesome spices are the ingredients of these mobile meals. In addition, the C Ration includes a unit of five concentrated biscuits, five pieces of hard candy in assorted flavors, three cubes of sugar and a container of soluble coffee.

There's a reason for everything in the Army. Scientific studies have shown that the citric acid in hard candies cuts the dusty feeling in a soldier's mouth on a long, hot march—bringing him to his destination in better fighting trim! The C Ration, all previously prepared

SHIP'S DOCTOR
HURRY, DOCTOR... THE CAPTAIN'S CABIN!
DOCTOR, IT'S TIME FOR YOUR POST'S BRAN FLAKES!
LIFE IS SWELL WHEN YOU KEEP WELL!
Post's 40% Bran Flakes
Wheat
VITAMIN B1
U.S. NEEDS US STRONG
EAT NUTRITIONAL FOOD

New! Crisper! Delicious nut-like flavor, plus 3 Extra Benefits!

Yes, they're new—crisper, more delicious than ever! For we are making Post's 40% Bran Flakes by an improved process to make them extra crisp . . . to make that famous sweet-as-a-nut flavor better than ever. And Post's Bran Flakes give you these three extras:

1. They provide enough bran to help prevent constipation due to lack of bulk in the diet.

2. They supply important whole-grain nourishment of wheat—meet or exceed the thiamin, niacin, and iron levels of whole wheat.

3. Post's Bran Flakes also provide additional thiamin—50 U.S.P. units per ounce, or 15% of an adult's minimum daily requirement.

and packed in containers resistant alike to moisture, heat, cold and gas, may be eaten either hot or cold. Marching with troops under actual combat conditions, a correspondent for *Life* magazine lived on C Ration with the soldiers, said it was "delicious."

D RATION

Perfected by Colonel Logan, the D Ration is the Army's all-purpose emergency fare—an energy-packed "candy bar" which all forces in the field are required to carry with them all the time, so that they may never be caught short without provisions if they're cut off from their units by enemy action. Specifically, the D Ration comprises 4 ounces of chocolate, sugar, skim-milk powder, cocoa fat, oat flour, vanillin and 250 International Units of vitamin B_1, equal to 600 calories. "Sounds like a convalescent's formula—distastefully healthy," the laboratory staff reports a correspondent as having said on his return from service in an equatorial campaign, "but out there it was mighty good!"

K RATION

Originally designed as a parachute ration, Field Ration K attracted the attention of the Army and has since been accepted officially for use by the armed forces in time of emergency and continuous combat when regular messing facilities cannot be used. It is highly concentrated—3,726 calories packed in three boxes (one for each meal) with an over-all weight of less than 33 ounces! The K Ration is so packaged that temperatures up to 135° F. or down as low as —20° F. have no effect on the food. Fighting men who live on K Ration enjoy the following menu: Breakfast: biscuits, veal, malted milk-dextrose tablets, soluble coffee, sugar and gum; Dinner: biscuits, pork, malted milk-dextrose tablets, concentrated bouillon, gum; Supper: biscuits, cervelat sausage, a 2 ounce Ration D bar, sugar, lemon juice powder and gum.

JUNGLE RATION

America's jungle fighters who become separated from their sources of food supply don't have to subsist on roots, berries and tropical fruits —the QMC has seen to it that they are supplied with good American food! Peanuts, apricots, raisins, milk, biscuits, cereal, meat, cheese, candy, sugar, coffee, cocoa, lemon powder, sugar coated gum and salt tablets are all in the Army's answer to the ennervating heat of the tropics—the Jungle Ration. As a morale builder, the packaged ration also includes cigarets. With meals planned to fight off the effects of heat and seven smokes a day, the jungle fighter is prepared for any emergency!

MOUNTAIN RATION

According to studies made by the medical officer who was attached to the Mt. Everest expedition in 1924, men lost their taste for solid foods at extreme altitudes, but they still enjoyed sweets, fruits and soups. Laboratory tests have verified the fact that whereas the heavy protein foods lose palatability at high altitudes, sweets remain appealing to the appetite. These studies have guided the Quartermaster Corps in the preparation of rations for mountain troops. Packed in a carton which adds the minimum burden to the mountain soldier's pack, this ration contains: Breakfast: 4 ounces of cereal, 1⅛ ounces of milk, 2 ounces of raisins, 1 ounce of biscuits, 3 ounces of sugar, ½ ounce butter, and coffee; Dinner: 4 ounces chocolate, 1¾ ounces raisins, 2 ounces cheese, 2 ounces biscuits, candy, sugar and lemon powder; Supper: 1 ounce biscuits, 1½ ounces tomato soup, 3 ounces baked beans, 3 ounces corned pork, candy, sugar, butter and tea. Additional items in the ration include sugar coated gum, salt and cigarets.

BAIL OUT RATION

Generally speaking, a man doesn't bail out of an airplane because he wants to. Usually, some disaster of enemy action or mechanical failure has overtaken him; he is likely to come down far from any friendly base, and alone. He needs food, yet every pound of food he takes with him in his plane is a pound less that he can have of armament, or ammunition, or fuel, or other needed equipment. These are the problems which the Quartermaster Corps set out to solve in designing the Bail Out Ration. That they brought to bear on this problem the highest ingenuity of nutrition science has already saved lives; it will save many more before the war is over.

The Bail Out Ration consists of six 2 ounce fruit bars, six 2 ounce chocolate bars (D bars—equal to 1,800 calories!), three sticks of gum

Your No. 1
MEAT SAVER

New Faster Recipe for
BAKED BEANS
SAVES HOURS OF BAKING
NO OVERNIGHT SOAKING

Enjoy home-baked beans without keeping the oven going all day!

But be sure to follow the recipe exactly, using iron-rich Brer Rabbit New Orleans Molasses. This gives baked beans the traditional New England flavor. And also helps to give your family the iron they need when meat—a good source of iron —is missing from the menu.

Brer Rabbit's Recipe!

4 cups navy beans
½ lb. salt pork
1 cup Brer Rabbit Molasses
1 teaspoon dry mustard
1 tablespoon salt
¼ teaspoon pepper
3 cups boiling water (from simmered beans)

Wash beans; pick over; soak 3 hours in boiling water to cover. Cover, bring to boil in same water (to preserve minerals and vitamins) adding water if needed to cover; skim; cook slowly until tender—about 50 minutes. Drain, reserving cooking water. Turn beans into 3-qt. casserole. Scrape pork rind, score top by cutting down about 1 inch, and bury in beans with rind exposed. Mix remaining ingredients and pour over beans. Cover; bake in slow oven (325° F.) 3½ hours or until tender, uncovering during last hour. If necessary, add water during baking. 12 servings.

Brer Rabbit Molasses comes in two flavors: Gold Label —light, mild-flavored; Green Label—dark, full-flavored. In either cans or jugs.

FREE—MAIL TODAY!

ACCEPTED AMERICAN MEDICAL ASSN.

Penick & Ford, Ltd., Inc.,
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Send me—FREE—Brer Rabbit's "Modern Recipes for Modern Living," containing 116 recipes, and "Something Every Mother Should Know."

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Grapefruit; Orange; Blended Orange and Grapefruit provide Vitamins A and B with an abundance of
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plus DEXTROSE
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A.M.A. Council on Foods

WHITE STAR TUNA FISH
Chicken of the Sea FANCY TUNA
America's Favorites

DURKEE'S DOUBLE FLAVOR
VEGETABLE MARGARINE
• Made by a new process that whips the goodness of the pure, pasteurized fat-free milk and wholesome vegetable oils right into the product.
Durkee's OLEOMARGARINE
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BAKING, FRYING
SPREAD FOR BREAD
DURKEE FAMOUS FOODS, Chicago, Ill., Norwalk, O.

Dieting?
Watch Your Diet
by E. M. Geraghty. 8 pages. 10 cents.
The Truth About Acidosis
by James A. Tobey. 2 pages. 5 cents.
Pocket Calorie Index
compiled by Esther Bogan Tietz, M.D. 10 cents.
AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street, Chicago, Illinois

and three packages of lemon powder. This is concentrated food enough to sustain a man for days during which he may have to make his way unaided, often hampered by enemy positions, through wild or unfriendly country. The Bail Out Ration, according to members of the subsistence laboratory staff, represents a triumph of cooperative effort on the part of industry, science and military authorities.

FIVE-IN-ONE RATION

Often in this war, small groups of men are assigned to difficult operations, or "missions," which may take them away from their units for a day, or two days, or a week. For use on such missions, the QMC has planned the Five-in-One Ration, providing three square meals for five men. Used the most often of all the Army's emergency menus, the Five-in-One typically includes: Breakfast: canned grapefruit, dehydrated tomato juice or canned orange juice; dry cereal with sugar and milk or instant whole wheat cereal or oatmeal; canned ham and eggs, bacon or sausage with egg; coffee; Dinner: dehydrated pea or bean soup or stew; canned corned beef, roast beef or beans; canned corn or instant rice; hard candy; grape juice powder, lemon juice powder, or evaporated peaches, sugar and tea; Supper: baked beans, meat and vegetable stew, or canned spaghetti and meat balls; canned tomatoes, evaporated prunes or canned carrots; evaporated apricots or dehydrated pears, sugar, biscuit square, cocoa, dehydrated prune powder and preserved butter.

It is the time honored privilege of the soldier to grouse about his food. Army officers used to say that the soldier who doesn't complain at mealtime is likely to be a soldier whose morale is shot! Today, however, such complaining is limited to a few old timers who grumble as a matter of principle; actually, most soldiers eat better in the Army than they ever did as civilians. In today's war, the ability of the Army to maintain troops at highest fighting efficiency through a series of rapid movements may at any time measure the difference between success and failure in battle. The Quartermaster Corps and others who have helped to plan and produce the modern Army ration have made a significant contribution to victory.

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5. The Electric System (Nerves)
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7. The Exhaust (Waste Removal)
8. Safety Devices (Sense Organs)
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10. Upkeep (Healthy Living)

15c each—complete set in box, $1.00

AMERICAN MEDICAL ASSOCIATION
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Be a Good Patient!

(Continued from page 117)

False pride may be shaken to its soggy roots when you find that the little stenographer across the hall is far more admired for her courage and ability to take it smiling than are you who burst into raucous sobs when the orderly appears with the enema can. Your ego would rapidly deflate if you could realize that your senatorial "sluggish liver" is far less important than the pyloric spasm of the little baby on the floor below. Your ranting about being served cold tea really doesn't matter to the nurse who might have seen her classmate die from a streptococcic throat contracted from a little Chinese boy in the charity ward. Illness paints us all with a sweeping wash!

Be humble in the understanding that the most dangerously ill patients must be attended to first, and there is probably some one worse off than you. If you find it difficult to be pleasant and cheerful, at least don't spread gloom.

When the intern visits you, show him the respect due him. There is an all too widespread neglect in this direction. He holds down a difficult job and, for the most part, is paid off in abuse and ingratitude. The only pay he gets is the satisfaction of a task well done. No eight hour day, no double pay for overtime, and no excuse of having worked twenty-four hours straight if he's late for morning rounds. He is a qualified doctor and doesn't appreciate being called "Doc" any more than Mrs. Van Ayres likes being addressed as "Babe." His questions may seem personal to you; to him they are entirely abstract except for their bearing on your condition. He cares little whether you've had three operations or missed the measles. The record must be complete, and a thorough history is as important as the physical examination that follows. Every question has a reason behind it. You may not believe it, but the fact that you have a cat at home may be the reason for your asthma, and the mumps your wife had on your first anniversary may be the reason why the cat is "your only child."

Most of us realize the ravaging effects of chronic pain or illness on an otherwise serene disposition. We know that the pain threshold varies; in some, it is very low. But there is no excuse for failing to try to be gracious in your sickness. Your reward will be an unbounded personal satisfaction when it is over, plus the admiration of all these in the hospital who have helped you to recover.

All things are relative. The aura of a hospital is suffused with the glory of birth and the mysticism of death. Don't you be the one to taint it with the whimpering of cowardice and the petulance of selfishness.

In Your Hospital Room

(Continued from page 117)

Keep your radio tuned low. The suffering old gentlemen down the hall is not the least interested in the progress of a football game or a gruesome murder drama.

Don't hesitate to compliment good service; you would complain quickly enough if it were not good, so be fair.

There is no excuse for screaming or shouting. Your pain is not the first of its kind and probably not the worst.

Don't play hero or martyr. If you have complaints, your doctor wants to know about them. Tell him quietly, sincerely, without minimizing or exaggerating. That is his best guide to your progress.

Be patient! Remember there is a certain minimum time involved for even the smallest ailment.

Convey service complaints, if any, to your doctor or the supervising nurse, not to the world at large. A smile and a "thank you" will increase your service far more effectively than a continuous grouch that keeps people at a distance.

Don't cheat on your diet, sneak a smoke, or get out of bed, if these are forbidden. The joke will be on you when such indiscretion produces gas pain, distressing vomiting, postoperative hernia or other disagreeable aftermaths.

Don't waken the other patients at night with your complaints. They need rest, and the loss of it may considerably affect them.

Don't question or refuse treatments; nobody but yourself benefits by them, and no one else can take them for you.

Absolute cooperation, confidence, a bit of nerve, and a dash of optimism will shorten your stay in the hospital, and make it more endurable while you must remain.

BEST for BABY, too . . . especially after the "squirming" age. No buttons, no ties, no tricky flaps, no bulkiness. Specially designed *wide-opening* neck makes it easy to slip on over head or feet. Stays up snugly around the neck. Double front protects chest and "tummy". Carefully made . . . neat, smooth seams, trim, non-binding armholes. Sizes 1 to 6, for babies to 2 years.

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for INFANTS, CHILDREN, MISSES and BOYS

Health Exhibits for Fairs and Expositions

(*Continued from page 97*)

8. PERIODIC HEALTH EXAMINATION

An exhibit consisting of a series of transparencies in a large case 8 feet long by 4 feet high, with a transparent mirror for visitor participation; additional visitor participation units giving statistics on life expectancy and deaths at different ages. Three information files with questions and answers, and a unit with question blanks for answer by mail.

Space required, area 10 feet wide by 6 feet deep (or 20 linear feet); no background necessary. Strong table or horses for transparency case, with two small tables for exposition files.

Electrical connections, three outlets for lamps totaling 910 watts.

Shipping weight, 829 pounds.

9. DANGERS OF SELF DIAGNOSIS AND SELF MEDICATION

An exhibit consisting of four panels with posters showing the dangers of self medication and self diagnosis; three visitor participation units attract the attention of visitors; three information files and a question box accompanying the exhibit.

Space required, an area 10 feet wide by 10 feet deep (or 16 feet wide by 6 feet deep). No background necessary. Two tables 4 feet long for information files.

Electrical connections, none.

Shipping weight, 524 pounds.

10. NUTRITION PAMPHLETS

A table display showing pamphlets on nutrition available from the American Medical Association. The pamphlets are mounted on an easel.

Space required, a table 4 feet long.

Shipping weight, 73 pounds.

11. PREVENTION OF ACCIDENTS

An exhibit consisting of a mechanical "scrambler" carrying appropriate messages; four panels with posters dealing with traffic accidents, playground accidents, Fourth of July accidents and home accidents; transparent mirror for visitor participation, showing appropriate cartoon; information file containing brief paragraphs relating to accidents.

Space required, area 10 feet wide by 6 feet deep; no background necessary; small table for exposition file.

Electrical connections, two outlets for small universal motor and for lamps totaling 300 watts.

Shipping weight, 362 pounds.

14. YOUR PERSONAL HEALTH

An exhibit consisting of a series of twelve dioramas covering such subjects as nutrition, exercise and rest, weight control, correction of defects, avoidance of infection, and intelligence in health matters.

Space required, an area 20 feet wide by 8 feet deep (or 30 linear feet); no background necessary.

Electrical connections, twelve outlets, using a total of about 500 watts.

Shipping weight, 1,057 pounds.

15. THE PUBLIC HEALTH

An exhibit consisting of a series of twelve dioramas, covering such subjects as communicable disease control, epidemiology, food handlers, water supply, sewage disposal, milk supply, vital statistics and health education.

Space required, an area 20 feet wide by 8 feet deep (or 30 linear feet); no background necessary.

Electrical connections, eleven outlets using a total of about 500 watts for lamps and one outlet requiring alternating current for a small motor.

Shipping weight, 1,129 pounds.

16. HEROES OF MEDICINE

An exhibit, originally shown at the Golden Gate International Exposition in San Francisco, consisting of ten groups of figures: McDowell, Beaumont, Long, Holmes, Sims, Welch, Gorgas, Theobald Smith, Ricketts and Reed. Each group is set in a case with indirect lighting. Models are made of rubber and are quite substantial.

Space required, area 10 feet wide by 10 feet deep (or 21 linear feet).

Electrical connections, ten outlets using a total of 400 watts.

Shipping weight, 933 pounds.

17. INFORMATION ABOUT SYPHILIS

An exhibit consisting of two transparency cases showing various syphilitic lesions; a large exposition microscope showing Spirochaeta pallida; an information file containing brief paragraphs on the subject of syphilis together with various charts and posters.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, three outlets for lamps, requiring about 600 watts.

Shipping weight, 372 pounds.

18. SEX AND MARRIAGE

A table display showing posters and pamphlets available from the American Medical Association on the subject of sex and marriage. A transparency case contains the posters, with the pamphlets mounted on easels.

Space required, a table 8 feet long.

Electrical connections, one outlet using 240 watts.

Shipping weight, 200 pounds.

19. MATERNAL AND CHILD HEALTH

Exhibit consisting of a display of pamphlets available from the American Medical Association; models showing normal and abnormal pelves and the use of the pelvimeter; information file and question box.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, three outlets using 240 watts.

Shipping weight, about 500 pounds.

21. HEART DISEASE

An exhibit consisting of panels showing the normal heart, with transparencies showing diseased hearts; an information file giving information about heart disease.

Space required, an area 10 feet wide by 6 feet deep; no background necessary; small table for exposition file.

Electrical connections, one outlet for lights in transparency case using 240 watts.

Shipping weight, 297 pounds.

22. CANCER

An exhibit consisting of a mechanical model showing the chief locations of cancer in the human body in the order of their frequency; charts on panels dealing with early signs of cancer, what to do when cancer is suspected, malig-

nancy of cancer and cure of cancer; an information file containing brief paragraphs about cancer, together with a question box.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, one outlet using about 100 watts.

Shipping weight, 400 pounds.

24. PREVENTION OF EYE INJURIES

An exhibit used in conjunction with the Section on Ophthalmology of the American Medical Association, consisting of miscellaneous posters on panels ready to set up. The panels are accompanied by a transparency case showing transparencies of various eye injuries.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, three outlets, with a total of about 400 watts.

Shipping weight, 240 pounds.

25. PREVENTION OF BURNS

An exhibit used in conjunction with the Milwaukee Children's Hospital, consisting of miscellaneous posters on panels ready to set up and accompanied by a transparency case showing various injuries caused by burns.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, one outlet for lamps in transparency case using 200 watts.

Shipping weight, 240 pounds.

31. INFORMATION ABOUT HOSPITALS

An exhibit from the Council on Medical Education and Hospitals consisting of a mechanical model of a hospital entrance with doors opening and shutting every three and a quarter seconds to indicate how often a patient enters a hospital in the United States; shadow boxes and miscellaneous charts.

Space required, a booth 10 feet wide by 6 feet deep with walls on which charts may be fastened.

Electrical connections, one outlet for small universal motor.

Shipping weight, about 300 pounds according to material selected.

34. TULAREMIA (SPREAD AND CONTROL)

An exhibit made in conjunction with Miami Valley Hospital, Dayton, Ohio, and U. S. Public Health Service, Washington, D. C., consisting of transparencies showing clinical cases of tularemia and posters on panels showing the prevalence, animal hosts, insect vectors and what to do to prevent infection. An exposition "microscope" shows the tularemic organism.

Space required, an area 10 feet wide by 6 feet deep; no background necessary.

Electrical connections, two outlets for lamps in transparency case and exposition "microscope" using 255 watts.

Shipping weight, 297 pounds.

46. FOOD FADS

An exhibit from the Bureau of Investigation consisting of a mechanical attention arrester, two sets of transparencies showing persons whose diet requires special attention and persons whose diet should have been more carefully regulated; six posters each 22 by 38 inches dealing with some of the popular, but foolish, food fads; an information file with additional information.

Space required, a booth with back wall 10 feet wide and side walls each 6 feet deep; three small tables for transparencies and exposition file.

Electrical connections, three outlets for transparency cases and small universal motor totaling about 600 watts.

Shipping weight, 389 pounds.

47. MECHANICAL NOSTRUMS

An exhibit from the Council on Physical Therapy and the Bureau of Investigation showing various mechanical devices, such as, the "horse collar," the "gas-pipe" cure, etc., for which weird claims have been made, together with an information file containing descriptions of many more similar gadgets.

Space required, an area 10 feet wide for a table, with wall space above for 8 panels each 22 by 28 inches.

Electrical connections, none.

Shipping weight, 330 pounds.

53. NUTRITIONALLY IMPROVED FLOUR

An exhibit from the Council on Foods and Nutrition consisting of samples of wheat and flour showing the amount of vitamin B_1 in various milling products; ten posters, each 24 by 30 inches in size, dealing with further aspects of the subject, reprints and pamphlets, together with a question box.

Space required, an area 10 feet wide by 6 feet deep, with back wall and side walls for posters (or with no side walls but a back wall 20 feet wide); table for racks and literature, 8 feet long.

Shipping weight, 233 pounds.

55. POSTURE

An exhibit from the Council on Physical Therapy consisting of a manikin for visitor participation showing correct and incorrect posture; transparencies showing reasons for good posture and panels with posters showing the relation of sitting and posture, the feet and posture, the causes of poor posture and recommendations for good posture. An information file gives additional information.

Space required, an area 10 feet wide by 6 feet deep; no background necessary; two small tables, one for manikin and one for exposition file.

Electrical connections, three outlets for lamps in cases using a total of 440 watts.

Shipping weight, 368 pounds.

58. DIETARY DEFICIENCY DISEASES

An exhibit from the Council on Foods and Nutrition of the A. M. A. in conjunction with the Food and Nutrition Board of the National Research Council. There are three transparency cases showing pictures of the results of food deficiencies and eight panels with charts showing the values of various foods, together with a question box and an information file giving additional information.

Space required, an area 20 feet wide by 6 feet deep; no background necessary; four tables each 4 feet long for transparency cases and files.

Electrical connections, three outlets using 1200 watts.

Shipping weight, about 641 pounds.

93. HYGEIA, THE HEALTH MAGAZINE

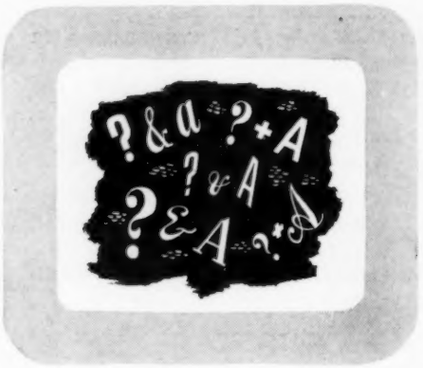
An exhibit consisting of an enlarged photograph of a small boy, together with two shadow boxes containing information about HYGEIA, sample copies and other literature for distribution.

Electrical connections, two outlets for shadow boxes, 120 watts.

Space required, an area 10 feet wide by 6 feet deep.

Shipping weight, about 300 pounds with literature.

QUESTIONS AND *Answers*



Dandruff

To the Editor:—What is the cause of dandruff? What treatment is recommended?

C. D., Pennsylvania.

Answer.—The exact cause of dandruff is not known; in many cases it seems to be the result of excessive oiliness or dryness of the scalp and hair. In mild cases it is often sufficient to wash the scalp two or three times weekly with a good soap, taking care to rinse the hair thoroughly to remove all the soap. When this is not successful, special advice should be obtained.

If the excessive dandruff has not been of long standing, the scalp can recover entirely, though frequent washing may always be necessary. There is evidence to suggest that the trouble may sometimes be contagious, and therefore individual hair brushes, combs and towels should be insisted on.

Hand and Foot

To the Editor:—What is the hardest part of the body, the palm of the hand or the sole of the foot?

M. A., New York.

Answer.—The question, as worded, is difficult to interpret. Neither the palm nor the sole can be called the hardest part, but the apparent desire is for a comparison of the two. The comparative hardness depends on the kind of activity one engages in. A woodsman or a blacksmith may develop palms that are as hard as saddle leather due to the thickening of the horny layer, which may be as much as a quarter of an inch thick in places. On the other hand, one walking habitually on bare feet may develop a horny layer on the sole as thick as that on the palm described above.

Underwear

To the Editor:—Some persons advocate cotton underwear even for outdoor work. I think they are mistaken, else why does the Army issue heavy woolen underwear for winter use?

A. S., South Dakota.

Answer.—To a certain extent a healthy person can become accustomed to almost any kind of underclothing at all seasons of the year. Many persons do quite well with light underwear all the year round, while others do not. The same comment applies to shorts versus full length underwear. The important point is comfort. If one finds it quite comfortable to wear summer underwear throughout the winter and is not susceptible to colds and other infections of the breathing organs, there is no reason why one should not wear light underwear. If, on the other hand, one is always having colds or if one feels cold and is easily chilled, one should wear more underclothing.

The disadvantage in heavy underwear is that it will make one too warm indoors and by contrast not warm enough outdoors. For the average person who is in good health and not of advanced age, the best practice is to wear relatively light underwear and to add sweaters and overcoats and other outer garments when going out of doors into the cold. Of course, persons who drive automobiles or trucks or whose occupations keep them constantly out of doors may find it necessary to wear heavier underwear. The only standard that applies under all circumstances is the standard of common sense. There is no hard and fast established standard, except the general principles outlined above.

The United States Army issues both cotton and woolen underwear. In the past, long cotton underwear was issued, but for various reasons, chiefly because the men resented wearing long cotton underwear, the Quartermaster changed to shirts and shorts. The only long underwear that is issued is a long sleeved woolen garment and ankle length woolen drawers.

Cold

To the Editor:—What is the effect of cold on the body?

R. C., Illinois.

Answer.—A series of important physiologic reactions take place when the body is suddenly exposed to cold. The smaller blood vessels, arterioles and capillaries of the skin are usually narrowed by the rapid application of cold. Blood then flows through the more central channels of the body such as the stomach, liver, spleen, kidneys and lungs. The arms and legs are most affected and show the greatest diminution of blood flow. As is to be expected, the color and warmth of the fingers and toes change from the normal, warm, pink feel to the deeply flushed and familiar cold fingers.

The decrease of blood flow is the result of a reflex from the skin carried through the sympathetic nervous system. The same type of reaction is seen after emotions of anger and fear. In certain patients who have had these nerves cut the response to cold is absent.

Other changes take place in regard to the total amount of circulating blood. Exposure to cold is followed by a moderate loss of the watery elements of the blood to the skin, the muscles and the liver and other organs.

Cold affects greatly the production of heat in the body. Normally there is a nice equilibrium between the heat generated by the body and the heat lost through exhaled air, sweating, urine, etc. There are certain temperatures at which the normal physical sources of heat production are not sufficient to keep the body at a constant temperature. Other mechanisms such as shivering, decreased loss of heat by radiation or the addition of more warm clothes are necessary to furnish sufficient heat to maintain body temperature. There is considerable

variation among different persons with respect to these so-called critical temperatures. Habit, previous conditioning, the amount and character of clothing all influence the individual's response to environmental reduction of temperature.

Main sources of increased heat production are the muscles and the liver. A fall in environmental temperature causes an increased tone of the muscles and such common phenomenon as shivering, gasping, chattering of the teeth, contraction of the smooth muscles of the skin in "goose flesh." Likewise, a similar increased blood flow through the liver produces additional body heat.

Allergy

To the Editor:—I have been taking year-around injections for pollinosis (timothy and ragweed) for about 7 years. Is it possible that, while that particular reaction is minimized, other allergies develop? I seem to be subject to a skin and food allergy in the last two years that was not present before. Is there any hope of discontinuing such injections after a certain period without suffering a renewed attack?

L. L., Ohio.

Answer.—Yes, it is possible that new sensitivities to foods or inhalants may have developed, or that sensitivities already present which previously had produced no symptoms now may be causing trouble. A careful study of the history of the recently developed symptoms together with additional testing is advisable.

After adequate treatment it is possible to discontinue injections with reasonable probability of prolonged freedom from attack. Because of individual variations the length of treatment required is variable. In general, if no symptoms have been present for three successive seasons, and especially if the skin reactions have disappeared, treatment may be discontinued safely.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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Virus

(*Continued from page 114*)

quito. Typhus is spread by body lice and probably by rat fleas, Rocky Mountain Spotted Fever by wood ticks. A more complicated cycle is represented by the virus of swine influenza. Shope has shown that this virus may be harbored in larvae carried within earthworms for many months, and that the ingestion of these earthworms by swine may result at some later date, following a provocative stimulus, in an attack of swine influenza. That a virus may lie dormant for a long time in its ultimate or intermediate host is of great significance, for our susceptibility to many virus caused diseases may depend not so much on our harboring the particular virus as on the provocative stimulus which causes this virus to spring to life and enter into the metabolic chain of events within the cells of the body. For example, simple herpes (fever blisters) is caused by a virus which is suspected of living harmlessly with its human host. Yet exposure of the lips to strong sunlight or a marked rise of body temperature stimulates the explosive, intracellular activity peculiar to viruses, and the fever blister results. It has been stated that 70 per cent of patients subjected to artificial fever treatment show this phenomenon. No doubt the provocative stimulus varies with different viruses. There may be a direct relationship between viruses and cancer, for certain types of animal tumors have been proved to be virus initiated.

It is well known that one attack of certain virus diseases confers life long immunity. It is natural, therefore, to turn to artificial methods of immunization as in the case of bacterial diseases. Three general procedures are in vogue. Active virus may be administered in conjunction with immune serum, in the hope of lessening the severity of the attack which will protect against subsequent infection. The second method is of great historical interest, as Jenner first used it in 1769 to vaccinate against smallpox. Here the virus of smallpox is passed through calves, in which it produces a similar, though less serious, disease called cowpox. The virus now recovered from the cowpox lesions henceforth can cause only cowpox, but the individual inoculated with cowpox is nevertheless protected against smallpox! A similar method is used for protection against yellow fever by passing this virus through mouse brains. The third method involves the use of virus attenuated by chemical or physical treatment which lessens its virulence without interfering with its capacity to produce protective substances in the inoculated animal. Hog cholera, dog distemper and rabies are diseases against which protection may be secured by this method.

The treatment of virus diseases once they have developed is less successful. Bacterial diseases cause much of their damage by the inflammation induced by the growth of germs on tissue cells and by the toxins or poisons resulting from this growth. Viruses require living cells for their growth and multiply only within living cells. The result is an explosive type of reaction within the cell which causes irreparable damage. This may be the reason that ready made antibodies or antitoxins, so useful in bacterial diseases, are unavailing in most virus infections once the disease has broken out. The virus which they are supposed to inactivate is already out of reach within the damaged cells. This may explain the proved futility of convalescent serum in infantile paralysis. On the other hand, appropriate immune serum mixed with virus at the time of experimental inoculation will protect the animal because invasion of living cells has not yet occurred.

A discussion of the nature of viruses has been delayed until a glimpse had been offered of their practical importance. They are infinitely small, yet definitely measurable, and it is significant that estimations of size by means of the electron microscope correspond closely with the indirect measurements obtained by x-rays and with the ultra centrifuge. Different viruses, moreover, vary in size and shape. If we enlarged our microscopic world until a red blood cell had a diameter of about 55 feet, a large bacterium might measure 5 feet, the virus of smallpox would be about 15 inches wide, the virus of yellow fever about 2 inches wide, and the virus of infantile paralysis about 1 inch wide! On this same scale, a single molecule of egg albumin would be a rod about one-sixth of an inch long.

Stanley states: "The most important property of viruses is that of multiplication or reproduction or growth. The introduction of one unit of a given virus into a susceptible host is followed by the production of millions of units of the same virus. It should be emphasized, however, that multiplication occurs only within the living cells of certain susceptible hosts. Viruses neither multiply nor cause disease when kept in a test tube, or with the living cells of a nonsusceptible host, or in the presence of dead cells or of cell free extracts of living cells. Viruses have been found to multiply, therefore, only within the living cells of susceptible hosts. Another point that should be emphasized is that, although during the multiplication most of the virus produced is of the same kind as that introduced, there also occurs a remarkable and apparently constant production of a small amount of virus that differs slightly from that originally introduced. It is said that the virus has changed or mutated and given rise to a new kind that is referred to as a new strain. If this new strain is vigorous and able to compete successfully with the parent strain, it will multiply in the host and may be isolated by an appropriate technic and studied apart from the parent strain."

These properties of viruses have long been regarded as characteristic of living organisms, and for that reason viruses have been regarded as submicroscopic living organisms. But this view has begun to strain our credulity now that accurate measurement has revealed that certain viruses are actually smaller than some protein molecules. Further doubt has been thrown on the living nature of viruses by Stanley's investigation of the tobacco mosaic virus. By appropriate chemical methods this substance has been reduced to a pure, crystalline state which has permitted definite conclusions as to its molecular structure and weight. It appears to be a nucleo-protein of definite archi-

lecture. Its disease-producing properties may be overcome by treatment with various chemicals, but in each instance this inactivation is due to actual structural change of the virus molecule; its virulence, or disease-producing capacity, may be restored by chemical treatment which restores its original molecular architecture.

Here, then, is an agent of disease which may be purified to the point of crystallization and may be subjected to a variety of physical and chemical treatment which is incompatible with the survival of any living organism; yet this same molecule, apparently as dead as any reagent which you learned to use in your high school chemistry, behaves like a living thing when introduced into the living cells of a susceptible host! It causes disease and always the same disease peculiar to its molecular structure; it is capable of reproduction and mutation. The theory of spontaneous generation has risen Phoenix-like from its ashes, except for the fact that virus has not yet been produced from nonvirus materials. In this respect viruses resemble those intracellular agents of heredity called genes. Genes are likewise large, nucleoprotein molecules that multiply or reproduce only within living cells and that may be altered and then give rise on multiplication to the new rather than the old type. Genes likewise arise only from pre-existing genes.

The attempt to decide whether viruses should be classed as living or nonliving things offers a fertile field for speculation to the scientist and the theologian alike. Perhaps our dilemma results from too narrow a concept of vital processes. Adherence to the cell theory of life and to the idea that a tremendous amount of organization is necessary for life certainly excludes viruses from this category. But if we visualize a series of structures of gradually increasing complexity, ranging from a molecule of water through various organic compounds and so to a living animal, we can appreciate that the transition may be as subtle as the color changes in the rainbow. Aristotle is supposed to have said over 2,000 years ago that Nature makes so gradual a change from the animate to the inanimate that the boundary line between the two is doubtful and perhaps nonexistent.

LOUISE: Tell me, Mary, do you know anything about those thingumajigs that many women use now instead of sanitary pads?

MARY: *I certainly do. I use Tampax myself and if you don't I'll give you credit for less intelligence than I thought you had.*

LOUISE: Well, of all things, Mary! You surprise me! I had regarded you as conservative about new ideas.

MARY: *Right you are Louise, but this new form of sanitary protection, Tampax, is a real boon to us women and I'd be stupid not to use it.*

LOUISE: Tell me, Mary, is it true Tampax doesn't show, that you are not conscious of wearing it and that it eliminates other nuisances that go with the wearing of external sanitary pads?

MARY: *It is all true, emphatically. It really seems too good to be true, but I now realize life can be worthwhile even at "those times" of the month!*

LOUISE: What started you on Tampax, Mary?

MARY: *I have a friend, Jeannette, a registered nurse whose word carries great weight with me. She said she uses Tampax and so do many other nurses . . . She emphasized what a lot it means to women from both the psychological and the physical standpoints . . . and now most of the girls in my office swear by Tampax!*

* * *

Tampax was perfected by a doctor to be worn internally and is now used by millions of women. It is made of pure surgical cotton compressed into one-time-use applicator. No pins, no belts, no external odor. Easy disposal. Three sizes: Regular, Super, Junior. At drug stores, notion counters. Introductory box, 20¢. Economy package of 40's is a real bargain.

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Palmer, Mass.

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THE FAMILY HELPS THE SPASTIC CHILD—By Belle McKinnon. 16 pages. 15 cents.

AMERICAN MEDICAL ASS'N., 535 N. Dearborn, Chicago

An Appreciation of Doctors

(Reprinted from Scientific American)

By ALBERT G. INGALLS

YOU have worked too incessantly for too many years and are tired out, and you finally have to go to a doctor. He tells you what you probably pretty well knew already—that you must slow down or go down.

Let's assume that you follow this doctor's advice—but do doctors follow their own advice? Not too often. They keep on working till they drop. Is the tradition that doctors die too young from overwork true, or only a manner of speaking?

A Brooklyn doctor has found an interesting way to get the answer, which is: the more successful the doctor, the sooner he dies. Each week in *The Journal* of the American Medical Association there is a long series of obituary notices of deceased doctors. Each notice lists the dead doctor's life attainments. Naturally, some of these notices are long, some of medium length, others short, and it happens that, for reasons of appearance, the printer arranges the notices in order of length—longer ones preceding shorter ones. It occurred to the Brooklyn doctor that this weekly list, thus arranged, might provide an opportunity to determine "what price success" in medicine. So he analyzed thirty such weekly lists and found that the average age of death of the first ten doctors on them was 64.6 years, while the last ten doctors—they who had served faithfully but not gained prominence—lived on to 69.3 years. Thus the price of success proves to be about five years of a doctor's life.

The chances are that, if you are "successful" enough in your own vocation to be tired out from incessant work and forced to hunt up a doctor to tell you to ease up and go fishing, you will also be in a position to hunt up one of the more "successful" doctors. He, of course, will simply fortify your existing suspicions with enough added resolve to make them stick, and you then will take the needed rest, while he will go on working—and dying.

Now he's a doctor and he ought to know better and he does. But he also is human, and it's human to give advice that we don't ourselves take.

But that's not the main reason for the tired doctor's keeping on and on. He doesn't find it simple to cut suddenly loose from his practice. Too many people have come to depend on him, or think they do. He can't simply fold up and walk out—or, if he can technically, he doesn't feel he can morally. All through his working life he has had to become accustomed to the fact—and it is a fact—that a doctor doesn't really own himself; he's a kind of public institution, or public utility. So in his subconscious if not in his conscious mind he knows he's digging his own grave. Yet he's a kind of soldier—he's in it and will go through with it.

And for all of this, much of which it is feared the rest of us take for granted—if we even stop to think of it at all—the doctor richly deserves our appreciation. Five years is a high price.

AVERAGE AGE OF PHYSICIANS AT DEATH IN 1941

The average age at death of physicians in the United States in 1941 was 65.9 years as compared with 66.3 in the previous year, *The Journal of the American Medical Association* reports in a recent issue. A survey of the 3,527 obituaries of physicians published in *The Journal* last year showed that heart disease again was the leading cause of death, as it has been several times in the past.

CHOOSING A DOCTOR

(Continued from page 106)

patients and charge others minimum fees. Doctors on the staffs of charity hospitals serve gratis and many of them also do free work in clinics. Much teaching and lecturing are also without remuneration.

As far as collections are concerned, it has been found that the average doctor collects 77 per cent of his accounts. One out of every four patients fails to pay his doctor bills. The average doctor works at least ten hours a day, and he certainly is entitled to make a living. It is most rare and unusual to find a doctor who has become wealthy through the practice of medicine.

Just what does make a good doctor? Salesmanship? No. Business ability? No. Personality? Not necessarily. But a doctor can be rated. His training is most important. Other considerations deal with intelligence, character, personality and progress. The Council on Medical Education and Hospitals of the American Medical Association makes surveys of medical schools and hospitals; every year they publish a list of approved medical schools in *The Journal* of the American Medical Association. The standards and requirements of the Council are strict and definite. In 1905 there were 160 medical schools in the United States. The standards and training provided by those schools varied tremendously. They graduated 5,606 doctors in that year. In 1940 there were 77 approved medical schools. They graduated 5,097 doctors. Sixty-seven per cent of these doctors had graduated from a university before entering medical school.

The United States has postgraduate schools for medical specialties which are considered some of the best in the world.

Though only about half the states require internship for medical licensing, 98 per cent of recent graduates have obtained such training. We can assume that most doctors have had at least ten years' training after finishing high school. Since medical schools in the United States have many more applicants than they can admit they choose the students with the best scholastic records. Of course, there are capable students who never enter because they lack the necessary funds. It's a tough job to work your way through medical school. The average tuition fee for a resident student is $378 a year, while many schools charge over $400 or $500. This does not include laboratory fees, microscope, books or living expenses. Even after a doctor opens an office, it takes three or four years before his income covers his expenses.

A specialist is a trained doctor who deliberately limits his practice to a certain field of medicine. The recent growth in medical knowledge has changed the entire profession; it is impossible for one individual to acquire all medical knowledge and to keep up with the constant output of medical literature. Ways of meeting this problem include specialization in one of the thirteen recognized fields of medicine, membership in medical organizations, reading the literature, attendance at medical conventions and taking postgraduate courses. Progressive practicing physicians may take refresher courses lasting four or five days or much longer.

To become a specialist a doctor must have graduated from an approved medical school, served a good internship in a large, well equipped hospital where he is instructed by doctors on the staff. He must then take from three to five years of intensive training in his special field. Often this comprises one year in a graduate school, two years as resident physician and two years as assistant to a specialist or two years of specialized practice. The requirements differ somewhat in the different specialties. All the fields have certifying boards which set up minimum standards. When a doctor fulfils these requirements he may apply to the board in his field for a certificate of specialization. If he shows satisfactory moral and ethical standing, membership in the American Medical Association or its equivalent and passes the comprehensive examinations given by the board, he receives his certificate.

A licensed doctor has a right to practice in a special field without having a certificate. Often a certain number of years of practice in one field is required before a certificate may be earned. During those years the doctor is on his toes—keeping up in preparation for the examination as well as to satisfy his own needs for handling patients.

Is it better to go to a young doctor or to an older man? This is not a simple question. It involves many factors. A young doctor who has had excellent training with some experience knows his field pretty well. If he has good common sense and is mature in his judgment, his youth need not be held against him.

An older doctor who was trained in a recognized medical school, whose practice and long experience are combined with a progressive point of view, who keeps up with the newer trends and whose clinical judgment is naturally more ripened is certainly a good man to choose. An older doctor once told me that there are so many new things in medicine that he has had to relearn everything since he graduated. He is an excellent physician. On the other hand, the man who had two years of training forty years ago and has learned nothing since can hardly be considered a good physician.

Though stringent entrance requirements for medical college tend to select able men and basic training in good schools and hospitals lays a good foundation, there are always some men who have greater intelligence, more knowl-

WHAT'S YOUR SCORE?

Compare your answers to the questions on page 107 to those given below. Score one point for each correct answer. If you have more than three wrong, you're not so good as a patient!

1. No	8. No
2. No	9. Yes
3. No	10. Yes
4. Yes	11. Yes
5. Yes	12. Yes
6. Yes	13. No
7. Yes	14. No

15. Yes

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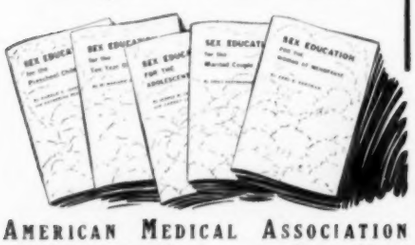

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street . . . Chicago, Illinois

edge, more imagination, finer skill and better judgment. When choosing a doctor, consider these factors rather than his charming smile or good salesmanship.

Personality and character, however, are important. The understanding physician treats the whole patient rather than a certain disease. In this respect the family doctor and the older men usually have greater insight and wisdom. The doctor's personal interest is of great psychologic significance in its effect on the patient. A sick person is emotionally upset. He needs a feeling of security and confidence. Encouragement is especially needed in prolonged or chronic illness to prevent the patient from losing courage. Despondency due to illness is sometimes indicative of inadequate medical treatment—of an attempt to treat the disease and not the patient.

It is true that the doctor cannot always effect a change in a patient's economic and social background, in his work, or in his opportunities for a normal life. Though he treats the whole patient, the good doctor also treats the disease. He does not jump to conclusions. He is industrious and thorough, checks up on all necessary factors. He takes enough time to do his work right. In an emergency, the mature doctor is helpful with calm, specific advice. He is sensible over the telephone, gets the facts and gives simple and clear directions regarding what is to be done till he arrives. A good doctor is reliable and dependable. He makes his calls within a reasonable length of time. He tries to be available most of the time. But we must remember that the doctor today is carrying an unusually heavy burden. We should therefore try to call him during working hours whenever we possibly can.

How can you find a reliable doctor in a strange city? Every large city has a medical organization called the "Academy of Medicine" or some similar name. If you call there, you will be directed to a reliable physician. If you have difficulty in locating the organization the Board of Health will help you find it.

The American Medical Association Directory, found in most public and medical libraries, contains a complete list of physicians, their age, training and specialty, if any, and their hospital and teaching connections.

Medicine has gone a long way from the time of the old medicine man to the modern, scientific physician. Through books and lectures, through laboratory work and demonstrations and through actual participation in treating patients in clinics and hospitals, today's doctor is trained to serve you. If there were any easy, simple way of healing the sick, men would not go through hardships and training that take half a lifetime.

Myopia

(Continued from page 111)

tution and growth have been advanced to explain the development of myopia, but none applies to all cases and none so far has been proved. However, it is known that proper food and the use of vitamins and minerals are necessary for the growing eyes in the growing body. Excessive near use of the eyes should be avoided, particularly if the time which should be devoted to physical exercise and development is interfered with by prolonged reading or other use of the eyes. The eyes, however, are made to be used and should be used. The mere use of them does not ruin them, nor does nonuse save them. Objects should not be held closer to the eyes than necessary—even though this habit cannot be proved to produce myopia or to cause it to increase. Good posture in reading should be insisted on, if only for its own sake. Sufficient light should always be available, though again, the use of the eyes in dim light does not itself produce myopia. The near use of the eyes during and shortly after debilitating diseases such as measles, scarlet fever, tuberculosis and others should be avoided. At such times it is possible that the coats of the eye are weakened and may stretch under the influence of the normal

pressure of fluids within the eyes. Once stretched, the sclera, or outer coat of the eye, does not resume its previous shape, since it has no elastic qualities.

It is not wise to alter a child's whole life simply because he has become myopic. If a serious eye disease is found, it may be necessary to take him out of school and send him to the country or elsewhere for a year or more of outdoor life for physical rebuilding or cure, but the indiscriminate stoppage of school and of all close use of the eyes in cases of simple myopia is not productive of results. Nearsightedness develops even in those who have led outdoor life since childhood. It is well to permit myopic children to get their education and to allow them to pursue useful lives in the spheres in which their visual apparatus will serve them adequately. Personal and historical records show that myopic persons have accomplished much. President Theodore Roosevelt, Alexis Carrel, the great biologist, and John Wheeler, the famous eye surgeon, were all myopes. Modern methods of fitting glasses are such that full visual efficiency may be enjoyed by those nearsighted persons whose eyes are not diseased or whose myopia, if due to disease, has not interfered with central or peripheral vision. It is important to repeat that the final word on the use of glasses should not be reached in any case of myopia until a physician has seen the patient and has found no disease or determined that disease is inactive and stationary and not a factor in the further production of myopia.

It is wise to use glasses for clear vision, if only for its own sake and for the pleasure and joy of seeing, but it cannot be said that the use of proper glasses will protect the eyes and prevent the further progress of myopia, nor on the other hand may we argue that glasses ruin the eyes and regret that glasses have been used, thinking that the eyes would have "grown out" of the condition.

Children in the preschool and school ages should be watched care-

Coming in Hygeia

TWO EYES TO SEE WITH

by

James W. Smith, M.D.

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At the present time there are no restrictions on the sale of cosmetics. This means that you who use them and we who manufacture them are patriotically bound to observe a sensible self-control of supply and demand. Use your cosmetics conservatively. Buy only those products you need to keep your appearance looking its best. But don't neglect your appearance. A bright, cheerful, well-groomed appearance helps to maintain morale. Men on leave want their womenfolk — their wives and mothers and sweethearts—to be pretty and feminine. . . . We believe that we shall be able to serve you with Fine Cosmetics for the duration. While we may have to make some changes in our packages, we assure you that the quality of the products themselves will not be changed, unless it be for the better. Rather than lower the quality of a product we should abandon its sale for the duration. . . . We appreciate your patronage and seek to merit its continuance by a strict adherence to the motto of our organization, which is — "Quality Survives."

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fully for various physical defects, including those of vision. A physician should be in charge of the examination of the eyes. The purpose of the school examination is to conserve and develop the health of the children, and not simply to fit them with glasses. It is unwise on the part of those in charge of children to consider the fitting of glasses as a complete eye service for school children, just as it would be unwise for them to fit a brace or crutch to a child who develops a limp which is due to disease of the hip joint. Vision is a priceless faculty and should be guarded in the best way known, or else it may be lost.

The eye physician will not permit useless exercises, fads and other practices of charlatans who prey on victims who desire "clear vision" without glasses. The slogan, "Throw away your glasses!" is a laudable one only if applied to those who can see as well for all purposes without glasses but who have been told to wear them and are afraid not to do so. Reputable physicians are constantly telling patients to give up the use of glasses which accomplish nothing. So-called "rest glasses" accomplish nothing if they do not correct an error of refraction and hence may well be dispensed with. Taking glasses away from those who are myopic is a tragedy. These people really need glasses to see well and should have them for this purpose. However, they should be allowed to remove them for certain occasions, as for example when young ladies attend parties or go out socially. There is some difference of opinion on this point, but the experience of a number of physicians shows that this does no harm. The use of contact or invisible glasses on these occasions may be tried, but they are not always suitable or satisfactory. The factor of danger in the use of glasses in sports can be met by guards and by shatterproof lenses.

The military services, particularly the Navy, Marine and Air Corps, realize the value of normal acute distant vision uncorrected by lenses. The Army is more lenient in taking those who see only fairly well with glasses and who would not be totally lost if their glasses were broken. If the secret of the prevention of myopia were known it would have been used by the Nazis and by the Japanese in their thorough preparation for military life. The requirements of the various branches of Selective Service and of the draft boards are well known. Myopes of even moderate degrees are not assigned to active combat duty. They have certain advantages, however, and they can well be used for executive and clerical positions and for defense work. Myopes have the so-called magnifying eyes and can see extremely fine details in close work.

Examination of the focus of the eye should be made frequently in all cases which are showing change, and at least every year when the condition has become stabilized. Only when disease of the eye has been excluded may the prescription for glasses be entrusted to nonmedical examiners.

The eyes which show disease and progress in a so-called malignant or pernicious form of myopia are of a different sort. Uveitis, or inflammation of the inner membranes, is usually present in some form. These are the sick eyes in which the outer coats of the eyeball elongate more than the retina and choroid, the inner membranes which will not stand stretching. The latter are inelastic and designed to cover accurately the inner surface of the normal sized eye. Areas of deterioration and degeneration develop and are usually accompanied by hemorrhage and inflammation. Detachment or separation of the retina and pigmentary changes of the retina may occur. The myopic eye is prone to such mishaps, particularly if a relatively slight accident occurs. The normal eye, cushioned in the orbital socket and protected from injury in many ways, can stand bodily shocks, but not so the diseased or highly myopic eye. Persons with eyes like these are cautioned not to dive into water, at least not from higher than a 3 foot board, and not to indulge in physical contact sports such as football. They are warned to avoid bodily shocks and falls because of the greater danger of separation of the retina in the myopic eye.

The best interests of the public will be served if those who have disease of the eyes with apparent nearsightedness will have their disease discovered and treated and not simply get a pair of glasses!

WHITE COLLAR JOBS

(Continued from page 95)

sion. Thus encouraged, Peter C. continued to rent vacant lofts, even in old fashioned buildings long idle, to artists' groups for painting, sculpturing, pottery, and so on; to youth organizations as headquarters; to music or dancing schools; even to kindergartens! As time went on, the possibilities for using vacant lofts increased. To find the tenants meant going after them with a will. He read daily the news columns for places in demand and lost little time in proposing one or the other of the lofts on his list. Building his own job gave the man more satisfaction than he could ever have gained from something for which he was temperamentally unsuited.

RENTING DISPLAY WINDOWS

To help sell the handicraft of disabled home workers, Miss Bertha F., a middle aged woman with a flair for interior decoration, decided to exhibit their products—objects in carved wood, tooled leather, pewter, brass or silver; needlework of every sort; drawings, and the like—in show windows of vacant stores. She was intrigued with the idea of selling these attractive articles to people who knew how to appreciate them.

The first step was to get the real estate agents who listed vacant stores to cooperate. She inquired about the cost of using the windows until the stores were rented. Several agents made a moderate charge that she could meet. Thereupon, this energetic woman dressed the windows herself so artistically with the objects left to her to dispose of that a number of them were sold within a short time. As her plans became better known, many beautiful articles made by handicapped men and women were brought to her door. A margin of profit remained to her from the sales she made, enough to support her. She also had the satisfaction of having advanced a worthy cause.

MAPS AND GUIDEBOOKS

Maps for every purpose, for car owners, vacationists, Boy Scouts and all those planning tours or trips are ever in demand. Maps are used for hiking in the country or hills; maps are sought for fishing trips, for hunting, for bicyclers. Maps are needed of waterways, wooded trails, state roads—almost without end. A list of approved hotels or tourist camps may be added to each map.

The person who enters this business should leave his card in stores selling equipment to car owners, fishermen, hunters, Boy Scouts, or travel equipment.

LITERARY RESEARCH BUREAU

On the campus of every university there is room for a bureau where busy writers may drop in to list their needs for data for articles or books they may be planning. Scientific subjects and biography require much detailed research. A small office furnished with desk, files, typewriter, bookcase and chairs will be needed. There should be, moreover, dictionaries, almanacs, volumes on history, art, economics and the like, most of which can be purchased second hand.

Access to a library for reference to the American Library Association catalogue, the Congressional Library catalogue, the Reader's Guide to Periodic Literature, Who's Who, the Encyclopaedia Brittanica and other source material is necessary, of course.

Thus equipped, the chances of becoming known in the field and of making a living are good. Such a service should be listed on bulletin boards of campus buildings and advertised in college periodicals. Personal connections with the college faculty add to the chances for success in this kind of venture.

MAILING LISTS

Preparing mailing lists in your community means chiefly reading the daily papers for the names of young couples to be wed, of newborn infants, of well to do residents, of new arrivals in town, new businesses established, real estate news, notices about farmers, fruit growers, and so on; and looking up public records for marriage licenses, births and building permits.

Publishers and advertisers of all kinds of goods and services often have to reach a particular group of readers. Merchants require mailing lists for the distribution of circulars advertising their specialties. The market for lists is unlmited, as will be seen.

The first step is to make the classifications with names and addresses. Then duplicate them yourself and offer them for sale. In time you may need a mimeograph machine for duplicating a larger number of mailing lists. As you become known as an expert, your income will steadily increase. If by chance you should learn that a certain home owner needs new furniture, a radio or some other commodity, you might act as an intermediary between the home owner and the firm selling the needed object and earn a commission on the deal.

ORIGINALITY IN PRINTING

Here is an interesting project for the man who knows something about setting type. The idea is to get orders from tearooms and restaurants for menus and to offer to print them free of charge for each day of the week. When you have permission to do this, get in touch with moving picture theaters and amusement places in the neighborhood, offering to sell them space on the back of the menus. Any old printing press will do for a beginning; in time you may be in a position to purchase a good press on deferred payments. When you have a place to put up a press—be it basement or attic—you are ready to extend your business and realize a nice profit on your work.

Many books and pamphlets are available for the guidance of those who are determined to "help themselves to success." The stories and suggestions outlined here simply indicate that ingenuity and perseverance are the only requirements for successful self employment. Handicaps of circumstance, age, personality and physical defects can be overcome in almost every instance by the person who applies himself energetically and intelligently to his occupational problem, whatever it may be.

WHEN THE CHILD FALLS

By HERMAN M. JAHR

THERE is a belief current among many people that children and drunkards seldom receive serious injuries during a fall. The supposition is that in the case of the youngster, the bones are pliable and do not break readily, and that in the inebriate person the muscles are relaxed and tension on the bony framework is eased, thus minimizing the damage during a fall. How much or how little truth there is in the belief or in its explanation is immaterial. There is ample evidence that Nature exerts a protective influence on these two classes of mankind. In the case of the child, however, to rely wholly on the kindness of providence without exercising reasonable precaution is to invite disaster. For while it may be true that most young children escape with impunity, at times even an apparently mild fall may end in catastrophe.

During the first six months the infant is a helpless and unsuspecting organism. He spends all his time and energy in bed, and out of bed he is under close vigilance of mother or some other person in the family. At this period of life falls are infrequent. When they occur, they are usually the result of unintentional negligence, or carelessness, or loss of balance on the part of the attendant. The story often runs in this order; the baby was taken out of his crib for a change in clothing, placed on the bed. Mother turned away for a moment to fetch a safety pin or some other object, and the child rolled off the bed. Under such circumstances, as a rule, the mother, particularly if it is her first baby, is more frightened than the infant is hurt, if he lands on the bedroom carpet. The elevated canvas bathtub now in frequent use has become a potential risk when mother or nurse fails to exercise ample precaution against the slipperiness of the infant's body at the time of his daily bath. A fall onto the tiled floor may result in serious head or back injury.

By the time he is able to pull himself up on his feet at about 9 months of age, the baby's curiosity is already an established characteristic. It is in an attempt to exercise this psychologic impulse

that he takes many tumbles—not serious ones, to be sure, unless there is gross negligence on the part of the grownups in the family. In learning to walk, too, he will fall many times, but by and large these falls are of little significance. They are seldom serious. The minor injuries that are sustained at this period are the price he is required to pay in order to gain experience in muscle coordination. Thus in an effort to bring himself to an erect position, he may come down with a chair on top of him. He will reach for an object and lose his balance. There are innumerable ways in which he may fall, though he will seldom choose the most logical method or the ordinary occasion. It always happens when you least expect it. I was once called to see an 18 month old child who was found asleep, stark naked, on the floor in his room. The little fellow must have fallen out by climbing over the sides of his bed. How as restless a child as he was could sleep without any covering in an unheated bedroom during subzero weather was anybody's guess! His parents were certain that he would develop pneumonia. He did not. Children are as unpredictable in their reactions as they are in their ventures.

Against this happy ending, there is the tragedy of a father who lost his balance while carrying the 15 months old baby on his shoulder. In the fall, the child struck his head against the sharp edge of a table. While the parents were quarreling over such rough play the baby dozed off. He was seen by a physician three weeks later, when the mother complained that the baby has not acted right since the time of the accident. The family attributed the change to the scare. In reality, the boy had suffered a skull fracture with brain hemorrhage. He is now 6 years old, his muscles are spastic, and he has a mentality of about 2 years.

As stated previously, the ordinary fall that the average baby sustains is usually of little consequence. At the time he learns to walk it is important not to hamper the child in his efforts, but to allow him optimum freedom to develop muscle coordination through motion. It is equally important, however, regardless of his resistance, to deprive him of any breakable or pointed objects when he attempts to run.

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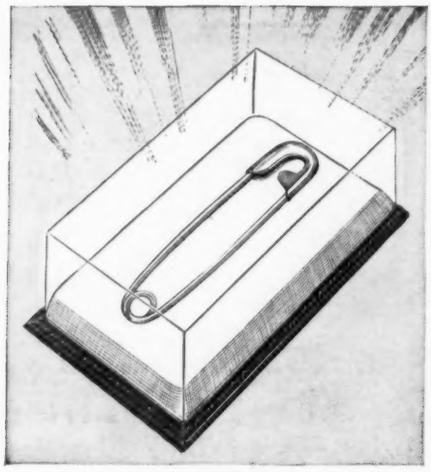

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EVERY safety pin you've got, mothers, is worth its weight in gold. So use each one again and again. And when your baby's diapers don't need pinning up anymore, pass along those precious safety pins for another infant.

Do the same thing with baby's diapers. Pass them along! Uncle Sam's mightiest baby-boom has put a big dent in the diaper supply. To save babies from a diaperless fate, your cooperation is needed:

1. When you do buy diapers, get the adjustable kind (like CHIX) that fold to fit any size baby. Avoids buying wasteful extra sizes.
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3. When your baby graduates, pass the diapers on to some grateful friend.
4. Are your children grown up? Look through their old baby clothes today for diapers that can be used again.

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Beginning with the runabout age falls are due to accidents rather than expected loss of balance. At this age, also, parents retain little control over the child's activities. The spirit of adventure may cause a youngster to climb fences, roofs, retaining walls, trees and other forbidden heights. His desire to show off may send him flying from a swing, if not with the greatest of ease, with disastrous contempt for the laws of gravity!

The results of a child's fall cannot be stated in general terms. An 8 year old boy who at the age of 5 years fell out of a five story hotel window and sustained a fractured skull was unconscious for more than a week, and one side of his body was paralyzed. Yet, within three months the child made a full recovery. He is now in the third grade in school, attending to his educational tasks without difficulty. Another boy, 10 years of age, fell crosswise against a fire hydrant while scuffling with a playmate and received internal injuries which proved fatal within a few hours.

Children's falls at times create erroneous impressions which some parents cultivate for no good reason. Thus a mother of a Mongolian idiot has convinced herself that the child's status is the result of his rolling off the bed when he was 10 months old. Another woman, whose child has badly crossed eyes, cannot be argued out of the belief that the fall which the baby sustained at the time he was learning to walk probably caused his development of crossed eyes three years later. She herself is suffering from the same handicap, and "that was how it happened." A third mother feels that her 6 year old daughter developed anemia when she fell while roller skating!

There are, however, cases in which even a simple fall has produced disquieting side results. A 14 month old baby who had commenced to walk some three months previously fell, as so many children do at this age, while running. The mother, shrieking with horror, seized the child and held it close to her until the doctor arrived one hour later. Although there were no bodily injuries, this child did not get on its feet again for almost a year. The mother, not the fall, was responsible. Consider the case of Bobby, who at the age of 7 years fell off his bicycle. All would have been well had not his parents insisted on an x-ray examination. The film showed an insignificant, small extra bone in the back of Bobby's foot. Father and mother were disturbed about it in spite of assurances from the physician that it meant nothing. As for the boy, he was both proud and boastful. His friends accepted and discussed the report with appropriate enthusiasm, until the Doubting Thomases appeared on the scene. Where was the proof of this, they asked. "Look at Stephen," they argued. "He only had polio and he limps." How can a kid having anything as precious as an extra bone in his foot walk without limping? Thus it was that Bobby cultivated a limp, which after a year is beginning to distort his hip and spinal column!

These side effects are practically always created by acute parental alarm and nurtured by the child because of persistent fear or for the high premiums which they bring in the form of power and attention. Self control and calmness on the part of those who witness the fall are, therefore, important preventives of these unnecessary complications. There is a superstition among some European people that laughter on the part of those who see the child fall will avert evil results of such a fall. So far as I know, this is the only superstition on record which presents a fair trace of logic. For if parents would laugh instead of shrieking when they see the youngster fall, his fright and even his pain would be materially reduced. A few simple rules on the immediate care of the child who falls are submitted here.

1. Maintain a calm attitude. Do not scream. The injury is probably insignificant, particularly if the child is small. Walk, do not run, to help him to his feet.

2. Unless the child makes a voluntary effort to rise do not attempt to lift him before you make reasonably certain that there are no joint dislocations or broken bones. This is especially important in the case of a youngster who has fallen from some height. Where the injury is accompanied by obvious deformity, allow the child to remain where he is and send for the doctor. If the child has to be moved, see to it that the injured part is well

protected. Too often the damage sustained as a result of improper handling may be greater than the original injury.

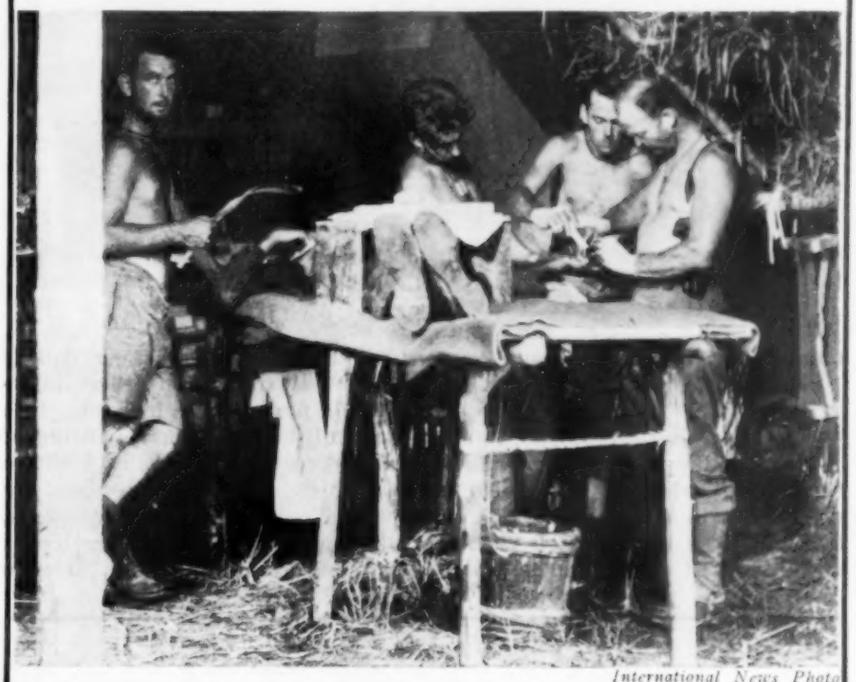
3. If there is severe bleeding and you are not sure of your ability properly to apply a tourniquet, exert moderate pressure on the bleeding surface by holding a towel or a clean handkerchief over it until the physician arrives.

4. Allow the child maximum comfort and rest. If he wishes to sleep do not attempt to keep him awake. There is a false notion entertained by many otherwise intelligent people that an injured person must be kept awake. This in spite of the fact that the first aim of the physician is to attain rest and quiet for the patient!

5. When the doctor arrives let him take full charge. Many parents and other relatives assume that the first step in the care of a child who has been injured is the taking of an x-ray. At their insistence the youngster is often dragged around from one place to another, taken on and off the hospital cart when he should be kept at complete rest. Let the physician decide on the time and the place for such diagnostic aids.

6. Do not neglect the youngster who has sustained a blow to his abdomen or to his back by falling, and who to all appearances seems uninjured. Many fatal accidents occur as a result of concealed bleeding due to injury to the liver, spleen, kidneys or other internal organs during an apparently innocent fall. The safest thing to do is to put the youngster to bed and call the physician.

7. Finally, remember that it is normal and conventional for a small child, until he learns the art of muscle coordination, to fall. After the age of 3 years when a youngster falls repeatedly because of what many unsuspecting parents attribute to carelessness or clumsiness, he deserves thorough medical consideration. The mother who traced her little girl's anemia to a fall simply substituted effect for cause. The child had fallen because she was suffering from a severe type of anemia. Another inversion of reasoning of this type is illustrated by a boy who at the age of 11 years became clumsy and began to lose his balance. He had developed a brain tumor.



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DOCTORS AT WAR

More than ever before, doctors today are serving at the fighting front. Here a medical Army officer operates on a wounded man in a jungle hospital in New Guinea, *within rifle shot of the fighting lines!* By taking medical science into the combat zones, today's doctors at war have made possible an amazingly low death rate among wounded troops.

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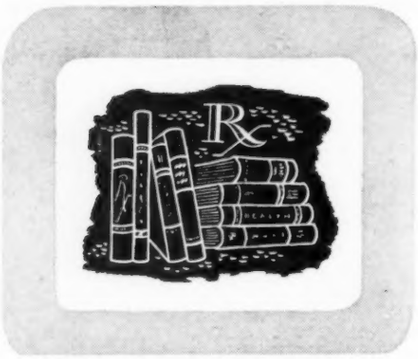

Books ON HEALTH

Manual of War-Time Hygiene

By Dean Franklin Smiley, M.D. and Adrian Gordon Gould, M.D. Paper. Price, $1.00. Pp. 86. Illustrated. New York: Macmillan Company, 1942.

In a small, paper covered book the author attempts to furnish a supplement to a college textbook on hygiene. The book is well written and organized and should be a distinct help to the average college student as well as to others interested in first aid and hygiene. It is doubtful, however, that a listing of such defects as leukemia, chronic bronchitis and emphysema or marked enlargement of the spleen, which preclude military service, is of much meaning to the average college student. Also, in the discussion of the disposition of wastes one wonders why there is a separate subhead "Manure" in this nearly completely mechanized warfare, failing to mention the attendant dangers of carbon monoxide poisoning! Several line drawings of the traditional design are included, though it was hoped a few new plates would have been added to clarify certain points. In particular, it is to be regretted that the diagram of the sanitary layout of a battalion camp did not include some attempts at concealment, especially after the dire results of aerial warfare at Pearl Harbor.

The chapters on Civilian Defense and First Aid are clear, concise and factual. Adequate handling of gas casualties and an appendix describing the Shaeffer prone pressure method of artificial resuscitation are welcome additions. In these days of rapidly moving events some of the passages of the book are already obsolete. With the probable early induction of 18-19 year old group, much of the usefulness of the book will be diminished.

HAROLD C. LUETH, M.D.

"Say, Gladys, who's your favorite author?"

How to be Fit

By Robert Kiphuth. Cloth. Price, $2.00. Pp. 131. New Haven: Yale University Press, 1942.

If one can take his exercise only by means of a few minutes of calisthenics daily he will find this manual excellent. It is beautifully illustrated, clearly written and presents a series of exercises which are good and well arranged. It is written by a famous and successful swimming coach and has a foreword by a brilliant sports writer and radio pundit. If a man would take these exercises regularly as directed he would find his body more supple, his muscles in better condition and his abdomen less prominent.

This is the last of a long succession of "systems" of exercises which have appeared during the past fifty years and which have purported to have some unusual and near magic qualities to cure human ills. They have included Roberts' Dumbell Drill, Walter Camp's Daily Dozen and many, many others, practically all good for developing muscle and giving it better tone.

They all overemphasize muscle and underemphasize joy. He is an unusual man who finds pleasure in calisthenics indulged in by himself

and gleaned from a book. It would be a fair guess that the man who plays tennis, rides horseback, or skates daily gains more fitness from these than from calisthenics. If such things are impossible for him, a set of exercises like these is vastly better than no exercise, and this particular set is very good. Because it is recommended by a man who has coached superior athletes one should not expect to become a superior athlete himself by following it. Nor should he expect to rid himself of gastric ulcer by it, since there are things which exercise probably will not cure! And he should not underestimate the value of happiness produced by recreational exercise.

DUDLEY B. REED, M.D.

Medical Parasitology

By James T. Culbertson. Cloth. Price, $4.25. Illustrated. Pp. 285. New York: Columbia University Press, 1942.

Parasites have been the scourge of mankind in the tropics from the beginning of time. The temperate zones have not been free from such afflictions, however, and with the contracting size of the world due to increased rapidity of travel, the dangers will increase. While this book was written for physicians and medical students, there is much in it that should be of interest to the layman. Malaria, hookworm, amebic dysentery and trichinosis have become almost household words. Before this war is over, other names unfortunately may be added to the list. Part I gives an excellent review of the sources of infection, the methods of transmission and what to do about it.

In Part II, a more detailed description is given of each infection, with diagnosis and treatment. There are many excellent illustrations and tables which add much to the text. An appendix presents a summary of technical methods used in the collection and diagnosis of specimens.

THOMAS G. HULL, Ph.D.

When Doctors are Rationed

By Dwight Anderson and Margaret Baylous. Cloth. Price, $2.00. Pp. 255. New York: Coward-McCann, Inc., 1942.

Two chapters make this book worth while: one on fakes and quacks and one on medical education. The first relates several authenticated stories of the fantastic activities of known charlatans—stories that would be entertaining if it were not for their tragic overtones of unnecessary suffering and

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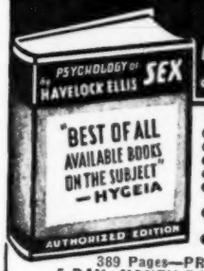

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death. In sharp contrast, the other chapter presents a faithful picture of the painstaking process through which the modern medical student arrives at his thorough understanding of the human body and its diseases—his intensive training in classroom, laboratory and clinic.

Chapters on Army and Navy medicine, public health, industrial health, medical societies, the specialties, how to be a good patient and how to choose a doctor add some interesting and some useful information—diluted, however, with extraneous details and repetitions of the obvious. The book's title, moreover, is a misnomer: with the exception of an opening chapter on medical recruitment little effort is made to relate the various topics discussed to the war and its accompanying effects on civilian medical service. Compared to this failure to come to grips with the real problems of the day, the authors' inaccuracies in reporting names and titles and their apparent belief in the threadbare fiction that "the Chinese pay their doctors to keep them well" are minor annoyances.

R. M. CUNNINGHAM, JR.

Terminology and Definitions of Speech Defects

By Mardel Ogilvie, Ph.D. Cloth. Price, $3.50. Pp. 300. New York: Bureau of Publications, Teachers College, Columbia University, 1942.

This volume reflects a study made with the purpose of laying "the groundwork for a clarification and systematization of the terminology of speech defects"—a commendable purpose in view of the confusion in terminology which exists in this field.

The principal part of the book (178 pages) is given over to Appendix A, consisting of outlines and tables summarizing the terminology employed from 1830 to 1936 and showing (1) the synonyms for terms; (2) similarities and dissimilarities of phrases used in definitions; (3) frequency of usage of terms and phrases; (4) years when terms and phrases were used; (5) the writers who used the terms and phrases; (6) the fields in which the terms and their definitions occur.

This volume represents a monumental piece of work. It will prove valuable as a groundwork on which to build a uniform terminology, and the author is to be congratulated for having had the courage to undertake such a Herculean task. The book should be part of every speech clinician's reference library.

JAMES S. GREENE, M.D.

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Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

Bureau of Publications, Teachers College, Columbia University, New York City.
Columbia University Press, Morningside Heights, 3960 Broadway, New York City.
Coward-McCann, Inc., 2 West 45th Street, New York City.
The Macmillan Company, 60 Fifth Avenue, New York City.
Yale University Press, New Haven, Connecticut.

VENTURES IN DENTURES

(*Continued from page 113*)

According to this author, such an incident as the following is typical of the case which requires more adjustments of the mental state than the dental plate. John Smith walks into the office the day after the insertion of his new teeth, wearing a dismal expression which his dentist recognizes only too well. His complaints can be pretty accurately predicted: "These things hurt like Sam Patch" . . . "They gag me" . . . "How can I chew when my plate keeps tilting up?"

The dentist rapidly checks over his own hopeful contributions to the success of this denture: impression, jaw relation, esthetics, laboratory procedure, occlusal balance, final inspection. All had received the utmost care during construction, and when the patient left yesterday it had seemed reasonable to expect satisfactory performance. Yet today it appears that all the pains expended have been lost on this patient; psychologically, the cards are stacked against the success of the denture.

In contrast, Mary Jones reports on her new teeth in this vein: "Well, doctor, I don't believe I need to be here today, but you told me to come in. I'm delighted with my new dentures. Every one who has seen me says they are beautiful. Even my expression hasn't changed, they tell me. Of course, I still have difficulty in eating and I know my enunciation isn't perfect yet, but I realize that I have to become adjusted to the change. I've no doubt I'll be comfortable in a short time."

No more exacting care had gone into the preparation of this set of teeth than into those of the disgruntled Mr. Smith. But these are successful dentures, while all the reshaping and polishing the doctor can do will not teach Mr. Smith to live happily with his "third teeth."

Pre-extraction education is the sadly neglected solution of our denture problems, in the opinion of the writer in the American Dental *Journal*. In other words, his recommendations might be summed up somewhat as follows: Find out what you can reasonably expect of artificial dentures before your own teeth are pulled. Fortify yourself with facts. Discard both the bogies and the rosy illusions. Go to your dentist and give him a chance to prepare you; he will be heartily pleased to have your cooperation.

He may show you, first of all, some of those fine gems of artificial teeth which are being manufactured today, calling your attention to the wide selection of shades and coloring, which vary from the opaque to almost complete translucency, from the yellows to the grays, from red and orange to the blue tinges.

No doubt he will also point out the minute anatomic features of natural teeth so painstakingly incorporated in artificial ones—characteristics such as lines, abrasion, erosion or other defects which appear in living teeth as the result of wear, usage and age. He will let you see the various makes, sizes and shapes which are available, telling you how teeth are made to harmonize in shape and size with the face and facial features, and how they blend with the coloring or complexion.

Back a few years, in the days of the aptly termed "false" teeth, dentists had good reason to be reluctant to present an advance showing of their wares—for they were far from artistic. The limited selection of

artificial teeth and the dark rubber, or vulcanite, then used for bases had little of natural tooth beauty to recommend them. The newer acrylic base materials so widely in use today give a pleasing simulation of mouth tissues, are good looking and comfortable and—of no small importance—are by far the most sanitary materials that have yet been used.

If your dentist is provided with a viewbox and some natural color photographs for your further education, you have some real surprises in store. For after showing you a series of facial closeups in the viewbox, he will ask you to point out which had natural teeth and which had artificial dentures. You'll be amazed at the high proportion of misses you'll get! And if you have harbored the erroneous belief entertained by most candidates for artificial teeth—namely, that everybody you meet will promptly brand you as "the man with the false teeth"—this little preview in your dentist's office should go a long way toward putting you at ease.

While you're on the subject of photographs, the doctor will probably tell you about the advantages of a series of photographs taken before your extractions. Made the actual size of the face, mouth and teeth, these photographs will be invaluable later as a record of your natural facial dimensions and expression. Most persons are vaguely aware that after Grampa got his old fashioned teeth, his expression rapidly changed for the worse. But perhaps we do not realize that certain facial characteristics commonly associated with old age in days past were actually the result of improperly fitted dentures. Even today, these characteristics may appear if the denture wearer fails to return to his dentist for refitting and reshaping as the mouth tissues go through their inevitable changes after extraction. Firmly compressed, protruding lips, the disappearance of the Cupid's bow, wrinkles or depressions above the upper lip and below the lower, pointed chin and sagging cheek pockets may all be the outcome of denture neglect—not merely the unavoidable signs of oncoming age. Due to the natural process of resorption of tissues, dentures must be rebuilt or new ones constructed at intervals in order to retain the normal facial lines. For this purpose, the pre-extraction photographs will be of great assistance to your dentist.

Another reassuring lesson in your course on "What to Expect of Artificial Teeth" will be the dentist's demonstration of the orientation gage, an instrument which is very helpful in making measurements of the normal face before extractions. This instrument consists of a chin rest, with thumbscrew for tightening in position, a vertical rod extending upward to the nose, and a rule attached to the rod which may be placed between the lips and the normal incisors. With this instrument, the following measurements are taken: distances from the edge of the maxillary, or upper, teeth to the nose, from the edge of the mandibular, or lower, teeth to the lower border of the chin, and from the nose to the lower border of the chin. Was ever groundwork more carefully laid for an important construction job?

Ask your dentist, too, what can be done about a whistling "s," in case you should develop one like your childhood remembrance of Aunt Ella's. He'll be prepared for your question because, although the problem is not a simple one, he knows how to deal with it if it should arise. It is chiefly a matter of thickening the palate—and here the trick is to find just how much extra thickening is required, and where to place it. Mouths being what they are, and no two of them are precisely alike, two or three applications of extra material may have to go on before the dentist can completely silence a sibilant "s," but the patient may take comfort from the fact that the matter can usually be dealt with—provided only he will stick by for another office trip or two. Little ridges, called rugae, carefully polished with pumice to prevent interference with tongue movements, are used to soften shrill tones.

Certainly such skill and thoroughness of preparation in building your dentures, and such resourcefulness in adapting them to the design and function of mouth, tongue and lips, deserve a good deal of confidence in your dentist and in the final outcome of your denture venture. They even deserve a pretty definite agreement with oneself, when facing that crucial "third set" of teeth, to learn to live with them.

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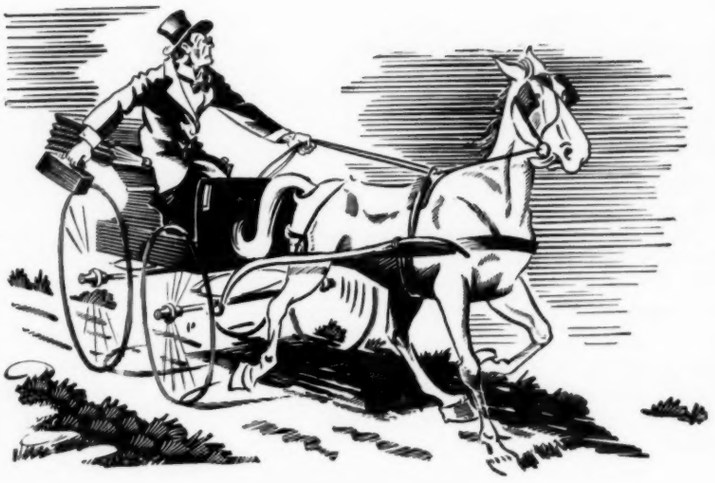

COUNTRY DOCTOR

Reprinted from *The Pilot*, published by James Boyd at Southern Pines, N. C.

RIGHT now, as fast as he qualifies for practice, every young doctor who is physically fit will probably go into the army. But one of these days the war will be over, and then he will have to decide where he wants to hang out his shingle. Among that great army of doctors leaving military service there will be some, of course, who are born for teaching, some born for experiment and research, some for hospital work, some, no doubt, born for a fashionable practice and for getting rich listening to the symptoms of rich old ladies. But most of them will be on the fence. We wish they all could have been in the Moore County Hospital the last few days.

Over there an unusual situation had occurred. Two of the leading physicians of this section, Dr. McDuffy of Hemp and Dr. McMillan of Candor, were both patients. Too bad they had to be laid up at such a time as this, when our country is short of doctors and many towns—Cameron, Jackson Springs, Eagle Springs, West End—have none at all.

But so it was, and while it was a hardship on the people of those communities some good came of it, too. All day long from the time they were first allowed to receive visitors people from Hemp and Candor kept coming in to see them: all kinds of folks, farmers in jeans and dressed-up merchants in silk neck ties, good looking girls in up to date, college girl clothes and old ladies with bonnets made back in the nineties and hands worn by the plow handles, old folks whose kin the doctors had cared for in their last illnesses and kids that they had brought into the world. Some of them had all the news and some of the men had jokes—the jokes, mighty broad perhaps, but human and funny, that farmers and doctors and those who live close to nature enjoy. Some just said, "How are you making it, doctor?" and then stood on one leg 'til they figured it was time to leave.

But they had all come to see the doctor, their doctor, and to let him know, if it was only by standing on one leg, how they felt about him.

For some time now our young doctors have been drifting into the cities. And in many ways country practice is hard, though nothing to what it was. But before the new crop of young doctors makes up their minds we wish there was a chance to show them what a doctor can mean to a community and what a community can mean to a doctor.

Your Sinuses and Your Health

(*Continued from page 104*)

sanitary forces of nature will spell trouble sooner or later. Hence all factors which inhibit the natural function of these cilia must be avoided. Overheating and the resultant arid condition of our homes; excessive smoking and the inhalation of dust-laden air are common causes of nasal disturbance.

The second most common factor influencing the nasal and paranasal cavities is what we technically call allergy; a state of excessive sensitivity to various substances. Those of you who are allergic have repeatedly noted how suddenly and completely your nose becomes clogged when you are innocently exposed to foods, plant pollen, animal emanations or just plain dust. This noninfectious inflammation of coryza which follows is the start of a series of changes which may vary from a slight rhinitis to a most profound asthma. The degree of sensitivity determines the extent of the reaction, provided the time and extent of exposure remain the same. Mechanical obstruction of the nasal passages during acute inflammation permits the sinus cavities to fill up with mucus, which hardens and dries. This stagnant mucus will in due time become infected, and pus will form. We then have what is called a purulent sinusitis. To prevent this course of events we must either avoid the offending allergin or be desensitized to it. All factors leading to nasal obstruction of anatomical nature must be corrected radically by surgery or conservatively by electrosurgery. Simple shrinkage of the nasal turbinates is often sufficient to restore free ventilation and drainage. This may be accomplished safely and painlessly by electrosurgical treatment to the nose and throat. All adenoidal tissue must be removed from the vault of the nose to prevent accumulation of hardened mucus as a barrier to the normal flow of secretion from the four pairs of sinuses.

Other factors that are conducive to sinus disease may be briefly considered as follows: Lowered immunity which results from our sedentary and confined mode of living; the large consumption of refined foods, which though delectable are lacking in the essential vitamin content; the malfunction of our glands of internal secretion, especially the thyroid gland which is the regulator of our bodily activity. Emotional stress with its resultant strain cannot be omitted in any comprehensive list of causative factors in sinus disease. The artificiality of our struggle for existence while pursuing our daily "civilized routine," especially in the crowded urban centers where large quantities of dust and irritating gases are always churned up by the incessant stream of traffic, accounts for the increased incidence of sinus disease. Those living in sparsely settled regions like the savage of the tropics, those living on higher altitudes where the air is cleaner, and even the Eskimo in the frozen wastes, are less subject to sinus trouble due to irritation and its resultant infection. The occurrence of sinus disease seems to be inversely proportional to the actinic effect and prevalence of sunshine or its equivalent in any community.

Anatomically we may note that the head contains four pairs of air cavities. Each cavity or sinus opens up into the nasal passageway and is lined with a mucous membrane that is continuous with that of the nose. A turbinate body, or concha, guards each orifice and protects us from the dry, cold or polluted air inhaled via the nose. The spongy turbinates, rich in blood vessels and covered by a special tissue, moisten, warm and filter the air we breathe in preparation for its entry into the lungs. When swelling of the mucous membrane occurs due to any cause, the ventilation of the paranasal sinuses is curtailed and obstruction to drainage soon follows. In addition to these physiologic functions, the air space which is substituted for solid bone renders the head lighter and hence more manageable. The air cavities also act as sounding boards and increase the resonance of our voices.

The treatment of nasal sinus disease depends entirely on the causes encountered in each case. Having

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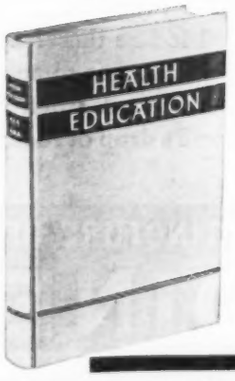

By the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association with the Cooperation of Advisory Committees.

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established the diagnosis by nasal examination, transillumination and x-ray following a thorough history, the principal causes are first carefully eliminated. In acute sinusitis the swelling and pain is ameliorated by internal medication either by mouth or by hypodermic injection. Externally we apply tampons which are antiseptic and shrinking in their effect on the nasal mucosa. Infra red exposure and ultra short wave are helpful adjuncts in hastening the resolution of an inflammatory process. Drainage having been temporarily reestablished, provided the invading organism is mild and short lived, no other form of treatment is required. Should the acute infection continue unabated for six weeks or longer, it becomes chronic and much more involved treatment becomes essential. Frequently ionization treatments will bring about a cure where injections alone have proven inadequate. In vasomotor rhinitis, where the mucous membrane swells from the slightest temperature change or irritation, we may resort to chemical or electrosurgical means to restore the boggy tissue to its normal state. Often where a bony deviation is present only radical surgery can be of any avail in establishing permanent ventilation and drainage.

Should we be confronted with metabolic disturbances or difficulty of the body to assimilate or properly prepare certain foods for absorption, we must provide, on thorough investigation, a balanced and adequate diet. This implies a diet not only rich in calories but also in vitamins and mineral salts. The elimination of sodium and the substitution of potassium ions is highly beneficial in the more recalcitrant allergic cases. Supplying the glandular substances which are lacking in some persons will promptly improve the sinus involvement by a general bodily improvement. Dry, foul smelling, atrophic noses are now cleaned up by supplying a hormone which is found to be deficient. There is a definite relationship now found between the secretion of the sex gland and the condition of the nasal mucosa. A hormone secreted by the thyroid and parathyroid glands is essential to the assimilation of certain food elements without which the sinus mucous membrane cannot resume its normal healthy function. For example, the parathyroid hormone is necessary for the proper absorption of calcium, phosphorous and vitamin D. All factors which in a general way affect our well-being adversely must be avoided. A state of anxiety and insecurity is often a complicating factor. Unhealthy mental fatigue rather than healthful physical exertion seems to be in vogue at the present time.

Lastly, and not least in importance, we must eradicate all foci of infection. Tonsils, adenoids or any lymphatic tissue which is infected must be removed completely either by surgery or more conservatively by electrosurgery. It is in removing this offending tissue and at the same time stimulating the general defense mechanism of the body that electrosurgery comes to our aid. With each electrosurgical treatment, the heat generated in the diseased tissues destroys the invading bacteria. A vaccine effect is soon produced which is helpful in stimulating the antibody response of the individual. This vaccine effect is one of our latest means of combating chronic sinus disease once the turbinates have been shrunk by surgical diathermy. To aid the natural defense mechanism of the body we augment our treatment with other physical means at our disposal. Ultraviolet irradiation generally, cold quartz applications locally, ultra short wave for deep heat penetration, ionization of the nasal membrane with its histamine response, subcoagulation doses of diathermy directly to the turbinates and internal therapy employing the sulfanilamide group medicinally are all important factors in the modern treatment of so stubborn a condition as sinus disease.

Malaria and War in the Pacific

(*Continued from page 103*)

ing a few simple precautions. In the Indian Army the prophylactic use of quinine was not encouraged, and no doubt that has proved wise in view of the fact that Japan now controls all the quinine sources and the United Nations have too little of this precious remedy at their dis-

posal. Stress is laid on the soldier getting to the root of the problem, so far as possible, by preventing the mosquitoes from biting him.

Each man has a small mosquito net as part of his equipment which he must use at night whenever conditions allow it. He must never be about after dark with bare knees or arms. Khaki shorts are the standard tropical wear in the field, but they are provided with a kind of turn up cuff that is worn buttoned up during the day and let down over the knees in the evening. Only shirts with long sleeves, buttoned at the wrists, may be worn after dark. Finally, every officer and man is provided with a cigaret tin of citronella oil preparation, which he must rub on face and hands.

There are two other dangers that have to be guarded against so far as possible. One arises from the making of excavations of any kind, such as the digging of slit trenches. In rainy weather these are liable to become breeding places for mosquitoes in no time, so they must be carefully oiled. The other danger arises from the employment of native labor gangs on such work behind the lines, as is often done when all the available forces are needed for combat duty. The natives are all ready to supply the malaria parasites to the mosquitoes as soon as they hatch from the puddles in the trenches! The extent of this peril in many tropical lands may be gaged from the fact that in the old days, before control was effective, annual death rates among labor forces on rubber estates of 300 per 1,000 were common.

No doubt, with increasing experience of jungle warfare, American and British scientists will devise new and improved methods of combating the malaria menace. They will adapt these to the different conditions they find in each country. Thus they would take into consideration in Java and Sumatra the fact that the mountain streams, which in Malaya prove so malarious once the neighboring jungle is cleared, are harmless. In fact all the highlands of Java, being under terraced wet rice cultivation, are practically malaria free, and the danger is confined to *A. sundaicus* in the mangrove belt. In North Borneo it appears that the dangerous *Anopheles* of Malaya does not carry the disease but, to make up for it, another species, *A. leucosphyrus,* living in the headwaters of jungle streams, has been found to be a carrier in one malarial area.

In the Philippines the coastal rice lands are healthy, but among the foothills *A. minimus* is a terrible scourge, breeding among grass in slow moving, clear streams. Probably the devastating ravages of malaria at Bataan among American and Filipino troops were due to the disease carried by this pest at a time when lack of quinine made adequate treatment of sufferers impossible. *A. minimus* is one of the great carriers of malaria, not only in the Philippines but far into continental Asia. It has caused trouble on the Burma Road, and also in the Assam valley, a probable scene of future fighting if the Japanese attempt to invade India. It is responsible for the deadly Terai malaria and blackwater fever in the foothills of the eastern Himalayas. But it was here that the remarkable discovery of G. C. Ramsay, Deputy Director of the Ross Institute, proved so amazingly successful. He found that malaria could be banished from a valley by simply growing a hedge of rhododendron or wild privet over a little stream, without interfering with the cultivation of rice in the more stagnant waters lower down in which *A. minimus* could not breed.

These examples will be sufficient to show that the main thing in mosquito control is to know the particular set of conditions governing the malaria situation in any given locality. It is largely a question of what is known as "species sanitation." In Malaya there are thirty species of *Anopheles,* and in India some forty, but in each country only a few are malaria carriers and must be controlled. Perhaps it is some consolation to know that the Japanese, for all their superabundance of quinine, are believed to have suffered severely from malaria in Burma during the monsoon. We may be thankful that the United Nations have at their command a vast store of scientific knowledge and experience in malaria control that should stand them in good stead when it comes to rendering innocuous as rapidly as possible a malarious area that our gallant troops have reconquered!

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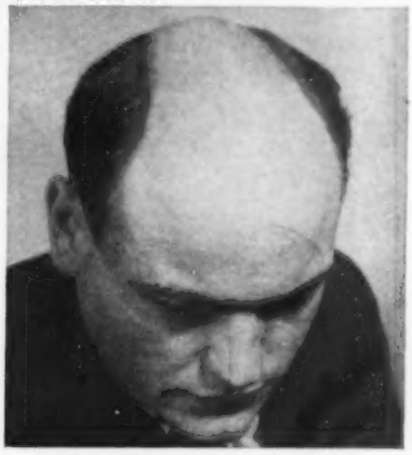

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Blood Donor Service

(**Continued from page 109**)

military population will be necessary.

DR. JORDAN: Do you anticipate, then, going on with the program throughout 1943 at the same rate?

MR. HOLM: Yes, and we must even extend our efforts. In order to prepare for the known needs and have an adequate reserve, there can be no let up in this work. It is even more pressing than ever that healthy individuals offer their blood for this all important work. Is there anything better than blood plasma for those who are wounded who require treatment for shock, or is there any substitute?

DR. JORDAN: Whole blood might be slightly better under certain circumstances, but is not practicable for emergency purposes or under field conditions. It has to be of the same type as the recipient's blood, the blood cells disintegrate rapidly, the blood cannot be dried or transported well, and, furthermore, plasma has proved nearly as satisfactory in all respects, so that the use of whole blood has been almost entirely abandoned except in hospitals. There are several new developments which may prove to be useful, although I doubt that there is anything which will entirely replace plasma in the near future. Among these is human albumin, which has emerged from the experimental stage and is now being actually used in the field to some extent. However, plasma remains the outstanding success.

Have the mobile units for procuring blood turned out to be satisfactory? As I understand it, there used to be certain central places to which people who wished to give blood had to go, while now, with the new mobile units, it is possible for you to seek out smaller and more out of the way places.

MR. HOLM: The mobile unit has been highly effective. It consists of a truck carrying all the necessary equipment, such as cots, tables and medical supplies; one doctor, six or seven nurses, a unit secretary and members of the volunteer services. The mobile units are available for industrial organizations, communities, lodges and churches. We are able to visit many places which could not be reached before. Since the mobile units were set up in June, we have actually sent units to about fifty different places and taken approximately 15,000 donations in this way.

I think people should know what is done to the plasma after it has been prepared and after it has reached the distribution centers where the troops are going into action? Is it given in dried form?

DR. JORDAN: No, plasma is not given in the dried form. It is again made into solution with sterile water or other substance and injected in liquid form. This method has now been so simplified that it can be done with a small amount of equipment. Combined with the ingenuity and resourcefulness of physicians in the field, this has made it possible to give plasma to many wounded men even before they are moved from the place of injury. It has never been possible to give anything approaching the value of blood transfusion so promptly before.

MR. HOLM: What amount of plasma is given to a wounded soldier or sailor in shock?

DR. JORDAN: The amount is not always the same. It depends on the nature of the injury and other medical variables. However, on the average, about two units of plasma are given to each patient. A unit is the amount of plasma obtained from a single 1 pint donation of blood. A single blood donation supplies, therefore, about half the amount of plasma usually given to a single patient.

The blood procurement program of the Red Cross shows that life saving activities can be pressed just as energetically as any other program. The generous people who give their blood are saving lives just as effectively as the doctors at the front!

EDITOR'S NOTE: Since this broadcast was presented, a preliminary report of the use of plasma for victims of the Boston night club fire has been published. Drs. N. W. Faxon and E. D. Churchill state that plasma was used liberally and effectively in caring for victims of the disaster.

Bees and Children

By JANE GARRISON
and
KATHERINE SHIPPEN

A STRONG AROMA of smoke permeated the Brooklyn Children's Museum. Immediately both staff and public began a frantic search. Some one swung open the doors of the lecture hall and there it was, curling upward from the center of an absorbed group of children. The Bee Club was learning how to smoke out a swarm. No one in the room, with the exception of the beekeeper who was giving the demonstration, was more than 7 years old, for that was the self-imposed age limit of this group of youngsters who devoted an afternoon each week to the study of bees and bee culture. At each meeting various members volunteered to give lectures the following week, some of which they illustrated with slides selected from the Museum's collection. At other times they studied the large, dissectible models of bees or the miniature hive which had been especially constructed for their use. Once in a great while they let an adult take the floor, although it was understood that grownups were there for reference purposes only.

Most of the children in the Bee Club were about 6, but the matter of bees and beekeeping seems to appeal to people of all ages. The glass observation hive which we installed twelve years ago stirred up so many questions that soon a large hive was started outdoors. The one hive increased to a dozen. The honey was sufficient not only for the bees but to give away as Christmas presents, and to sell, and the wax from the combs proved useful in making figures for the Museum dioramas. What had started as a lesson in natural history turned out to be a thriving business, and this spring the Harmon Foundation made a motion picture with the Museum bees as the chief actors, to show how easy and interesting bee culture is. The film is a timely one, for bees are already enjoying a revival of public esteem. The shortage of sugar has increased the value of their product as a sweetener, and a new appraisal of the uses of honey is being made on every hand. It is easy to see why the praises of honey have been sung by many a sage in both the Old World and the New. Even Solomon said, "My son, eat thou honey, for it is good; and the honey comb, which is sweet to thy taste."

Although honey is recognized as the chief reason for domesticating bees, we have been much more interested in the less concrete values of bee culture. Even in a museum for children we are conscious of

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the special needs which human beings are developing in our age. With increased nervous tensions, uncertainty and fear, there has come an almost unconscious yearning for simple, wholesome occupations, a longing for a past age in which men matched their wits against the forces of nature and learned the secrets of elemental things. Hobbies in themselves have always been considered beneficial to a sick or worried mind, but there are few hobbies which combine so many healthful aspects as does beekeeping.

In the first place, one must know something about the habits and social organization of these remarkable insects if the fruits of their labors are to be turned to man's use. He must learn to recognize the queen or official egg layer of the hive, the drones or male bees, only one of which will serve a useful function by mating with the queen, and the workers or immature females who perform all the necessary labor of cleaning and ventilating the hive, feeding the queen and the drones, making the wax of which they build the comb, gathering the pollen and manufacturing the honey. It is estimated that the wings of a worker bee vibrate 190 times a second, her average trips in search of pollen extend for a mile and a half at the rate of 15 miles an hour, and she carries home each time a load of only about $\frac{1}{50,000}$th of a pound. At this rate it takes the combined industry of approximately 150,000 bees working two or three days to produce one pound of honey.

Secondly, the beekeeper must know how to apply his knowledge, for bees need proper treatment and some care. They sometimes need to be fed and at other times to be kept warm. They must have water and shade and plenty of flowers not too far away. They are subject to diseases and are often attacked by other insects, notable among which is the praying mantis. Moreover, they are not always as virtuous and hard working as popular literature would lead us to believe. They are even known to steal from their neighbors when thievery seems profitable, and it is hard to blame them when they must work several days for an amount of honey they can steal in a few minutes. The wages of sin, however, are often death, for bees as well as humans. The victims of robbery never give up without struggle, and the battle is fierce and destructive. Moreover, bees which steal inevitably develop bad dispositions and are unfriendly to their keeper as well as his neighbors. The good beekeeper must be a good detective in tracking down and identifying the criminals and must know how to lead them back to an honest way of life. He will move the invaded hive to the cellar, safely beyond reach of the invaders, and supply them with sufficient honey for food during the waiting period after which it will be safe to return them to their old location. In its place, he will put a new hive containing a small amount of honey so that the robber bees will not have to earn an honest living too suddenly after their debacle. If this provision is not made, reform will be hopeless and the robbers will continue their criminal careers, seeking new sources of plunder.

The third qualification is patience. The rain, the cold, the heat, the wind, play havoc with bees and are beyond the control of the wisest man. So, waiting for the proper weather conditions, the beekeeper of necessity becomes a philosopher. He needs patience and calm, and a little courage, too, in adhering to the laws of the hive, for bees are deliberate and cannot be pressed beyond the limits of their abilities or their needs.

Lastly, beekeeping involves some manual skill. Frames must be put together, the wax imbedded, the hives set up, and when the honey is ripe, the combs must be decapped and the honey extracted. The physical labor is not strenuous, but it is interesting enough to give satisfaction and relaxation to a tired mind.

Some years ago we had a small, one frame observation hive in the office, but after three days it was removed, for no one got any work done. The queenless hive was corked up to prevent the bees from returning to the old hive, and the humming of activity within could be heard in every corner of the room. The bees were waiting for one of the three queen cells to open. The second morning, the tone of the hum had risen to an excited crescendo. We peered into the glass, and there, in all her glory, was the new queen. We opened the entry way, and soon her subjects were busy cleaning and ventilating the

hive and grooming the new arrival for her nuptial flight. The drones were bestirring themselves in preparation for the single useful role they were destined to play.

On the third day a different sound greeted us when we entered the office. It was an angry, noisy buzz, and we rushed to see what was the matter. It did not take long to discover the new queen, lying on her back on the bottom of the hive, legs sticking up, very dead. Surrounding her were a dozen or more worker bees, trying desperately to revive her. The other bees were angry, and soon we found the cause. It was a second queen, newly hatched from queen cell number two, and we knew that there had been a battle to the death and that the younger had won. It is the law of the hive that there shall be but one queen. The workers, however, were not at all pleased at the outcome. They had evidently accepted the first queen and resented the intrusion of her conqueror. They showed their displeasure actively by making attempt after attempt to smother her, for a worker will not sting a queen. In the meantime, to complicate the drama of the hive, the third queen was trying hard to come out of her cell. The tiny cap was loosened, and she would push through a leg and peer out, but every time a guard of worker bees would shut the cap again.

At this point our beekeeper intervened. He opened the hive and removed the third queen cell with its occupant. The bees at last became discouraged and decided it was hopeless to work longer over their loved one. They carried her body out the door, stopped their murderous assaults on her successor, and order was restored. Later, the hive was moved to a section of the Museum where the public could do the watching and the staff could work.

Bees offer a healthy challenge to the child or the adult who decides to raise them. Many of our children have found the study of bees to be a lot of fun but have been content with the scientific knowledge they accumulate from careful observation. Others, however, have become partners with the bees in producing honey and wax and have gained as by products a healthy stimulation to their intellect, their patience and their skill.

SCENT ALLERGY

Evidence is presented by E. Urbach in a recent issue of the *Journal of Allergy* which suggests that pleasant or unpleasant odors of flowers, fruits, resins, animals, plants and animal foods can cause allergy. He says that in some patients nasal symptoms or asthma appear in the vicinity of roses, locust trees, linden trees, mock oranges, carnations, privet, lilies, common elders, lilacs, lilies of the valley and violets. These symptoms are produced at a time when no pollen is present. Urbach says that exposure to fresh blossoms and extracts of blossoms demonstrates that odors and not pollens are operative in such cases. Among other interesting examples of scent allergy described by Urbach are those in which persons develop allergy symptoms from mere odors of certain animals without the patient coming into actual contact with them. For some persons allergic to the smell of dogs, the proximity of a person owning a dog is sufficient to provoke an attack. He tells of the case of a woman who developed a severe allergic reaction every time she passed a street in which a fish market was located. Experiments with oral [by mouth] desensitization with specially prepared substances have proved successful for scent allergies.

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Medical News

OF THE MONTH

Chronic Exhaustion

The discovery of an increased incidence of chronic exhaustion in test pilots as compared to that in transport pilots led Jan H. Tillisch and Maurice N. Walsh, Rochester, Minn., to make a study of the condition, from which they concluded that several things can be done to prevent this chronic exhaustion state. They report in *War Medicine*, published by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council, that their study was also suggested by a review of the case histories of pilots examined at the Mayo Clinic. They point out that when one considers the nature of a test pilot's work the increased incidence of chronic exhaustion is not surprising. "And yet," the two men continue, "because of the very nature of his work the mental and physical health of the test pilot is of great importance, not only to himself but to his employer and at the present time to the nation. . . .

"We use the term chronic exhaustion state because we do not believe the functional disturbances encountered in a pilot are any different from the functional disturbances encountered in any other high-tensioned person subjected to overwork and prolonged emotional strain. The human nervous system, in common with the nervous systems of other animals, behaves as if it were a storehouse of potential energy. When its store becomes depleted, symptoms of exhaustion make their appearance. In a person subjected to long-continued mental fatigue recuperative processes do not have the opportunity fully to restore the nervous energy that has been utilized, so that the person is forced to rely on a special reserve store, which may be called the 'nervous energy reserve' and which is intended to be used only for emergencies. . . . In time, depletion of this nervous energy reserve occurs if adequate rest is not obtained, and the manifold symptoms of chronic exhaustion occur. The most common of these symptoms are the following ones: chronic fatigue, a feeling of inward tension and uneasiness, anxiety, difficulty in concentration, insomnia, irritability, headache, gastrointestinal disturbances and a generally increased awareness of and a preoccupation with bodily processes. . . ."

Among the suggestions made by the two men for preventing this chronic exhaustion state are the assurance of good physical condition by frequent medical examinations and correction of defects, at least eight hours sleep a night, regular exercise, frequent rest periods, frequent short vacations and mental relaxation through such channels as hobbies, particularly those not related to one's every day occupation. Indiscriminate use of sedative agents is strongly condemned, as is the continued use of stimulants such as alcohol or amphetamine sulfate.

Removes Live Shell From Air Raid Victim

The courage of a surgeon who removed a live shell from the thigh of a man during a recent air raid on London was described by the regular London correspondent of *The Journal of the American Medical Association*. The correspondent reported that:

"In a recent speech Dr. Donald Hall, chairman of the Royal County Hospital, told of a man brought to the hospital with a thigh injured during a recent air raid. Under the wound of entry a sharp pointed object could be felt. At the time of injury the enemy had dropped all their bombs and were headed home with their guns blazing. It was decided that the object therefore was not a bomb fragment and was thought possibly to be part of a fractured femur. X-ray examination, however, revealed that an unexploded cannon shell was embedded in the tissues. The bomb disposal unit was called and the officer identified the shell from the roentgenogram as of the armor-piercing variety which explodes on impact. What was to be done? If the shell exploded, at best the man would lose his leg, which would be shattered; very likely he would lose his life. If the shell exploded during the operation for its extraction, the surgeon and every one in the operating room ran great risks, especially for loss of eyesight. The removal was necessary, danger or no danger. The patient was left in blissful ignorance and the surgeon, his assistant, the anesthetist and the nurses got to work. Swiftly and successfully the surgeon performed the most delicate and dangerous operation of his career and removed the shell. Within half an hour of leaving the ward the patient was back in bed.

"War Medicine" Becomes a Monthly

As a further contribution to the nation's war effort, *War Medicine*, published by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council, has become a monthly publication. Since its inception in January 1941 it had been published bimonthly.

Vitamin Deficiency in Infant Diets

The daily diet of the average young infant is deficient in thiamine hydrochloride or vitamin B_1 and should be supplemented with that vitamin, Henry Rascoff, Brooklyn, advises in a recent issue of *The Journal of the American Medical Association* in a report of a 4 month old infant who was on a limited diet of boiled human milk for two months and subsequently developed a beriberi heart (enlarged) which diminished in size with thiamine hydrochloride treatment.